

Fishery Data Series No. 12-29

Alaska Peninsula and Aleutian Islands Management Areas Salmon Escapement and Catch Sampling Results, 2011

by

Michelle L. Moore

July 2012

Alaska Department of Fish and Game

Divisions of Sport Fish and Commercial Fisheries



Symbols and Abbreviations

The following symbols and abbreviations, and others approved for the Système International d'Unités (SI), are used without definition in the following reports by the Divisions of Sport Fish and of Commercial Fisheries: Fishery Manuscripts, Fishery Data Series Reports, Fishery Management Reports, and Special Publications. All others, including deviations from definitions listed below, are noted in the text at first mention, as well as in the titles or footnotes of tables, and in figure or figure captions.

Weights and measures (metric)		General	Mathematics, statistics
centimeter	cm	Alaska Administrative Code	<i>all standard mathematical signs, symbols and abbreviations</i>
deciliter	dL	all commonly accepted abbreviations	alternate hypothesis
gram	g	e.g., Mr., Mrs., AM, PM, etc.	base of natural logarithm
hectare	ha		catch per unit effort
kilogram	kg		coefficient of variation
kilometer	km		common test statistics
liter	L	professional titles	(F, t, χ^2 , etc.)
meter	m	e.g., Dr., Ph.D., R.N., etc.	confidence interval
milliliter	mL	at	correlation coefficient
millimeter	mm	compass directions:	(multiple)
		east	R
		north	correlation coefficient
		south	(simple)
		west	covariance
		copyright	degree (angular)
		corporate suffixes:	degrees of freedom
		Company	expected value
mile	mi	Corporation	greater than
nautical mile	nmi	Incorporated	greater than or equal to
ounce	oz	Limited	harvest per unit effort
pound	lb	District of Columbia	less than
quart	qt	et alii (and others)	less than or equal to
yard	yd	et cetera (and so forth)	logarithm (natural)
		exempli gratia	logarithm (base 10)
		(for example)	log
Time and temperature	d	e.g.	\log_2 , etc.
day		Federal Information Code	'
degrees Celsius	°C	id est (that is)	not significant
degrees Fahrenheit	°F	i.e.	null hypothesis
degrees kelvin	K	latitude or longitude	percent
hour	h	monetary symbols	probability
minute	min	(U.S.)	probability of a type I error
second	s	months (tables and figures): first three letters	(rejection of the null hypothesis when true)
Physics and chemistry		AC	α
all atomic symbols		registered trademark	probability of a type II error
alternating current	A	trademark	(acceptance of the null hypothesis when false)
ampere		United States	β
calorie	cal	(adjective)	second (angular)
direct current	DC	United States of America (noun)	standard deviation
hertz	Hz	U.S.C.	standard error
horsepower	hp	U.S. state	variance
hydrogen ion activity (negative log of)	pH		population
parts per million	ppm		sample
parts per thousand	ppt, ‰		Var
volts	V		var
watts	W		

FISHERY DATA SERIES NO. 12-29

**ALASKA PENINSULA AND ALEUTIAN ISLANDS
MANAGEMENT AREAS SALMON ESCAPEMENT AND
CATCH SAMPLING RESULTS, 2011**

by

Michelle L. Moore

Alaska Department of Fish and Game, Division of Commercial Fisheries, Kodiak

Alaska Department of Fish and Game
Division of Sport Fish, Research and Technical Services
333 Raspberry Road, Anchorage, Alaska, 99518-1565

July 2012

The Fishery Management Reports series was established in 1989 by the Division of Sport Fish for the publication of an overview of management activities and goals in a specific geographic area, and became a joint divisional series in 2004 with the Division of Commercial Fisheries. Fishery Management Reports are intended for fishery and other technical professionals, as well as lay persons. Fishery Management Reports are available through the Alaska State Library and on the Internet: <http://www.adfg.alaska.gov/sf/publications/>. This publication has undergone regional peer review.

*Michelle L. Moore
Alaska Department of Fish and Game, Division of Commercial Fisheries
211 Mission Road, Kodiak, AK 99615, USA*

This document should be cited as:

Moore, M. L. 2012. Alaska Peninsula and Aleutian Islands Management Areas salmon escapement and catch sampling results, 2011. Alaska Department of Fish and Game, Fishery Data Series No. 12-29, Anchorage.

The Alaska Department of Fish and Game (ADF&G) administers all programs and activities free from discrimination based on race, color, national origin, age, sex, religion, marital status, pregnancy, parenthood, or disability. The department administers all programs and activities in compliance with Title VI of the Civil Rights Act of 1964, Section 504 of the Rehabilitation Act of 1973, Title II of the Americans with Disabilities Act (ADA) of 1990, the Age Discrimination Act of 1975, and Title IX of the Education Amendments of 1972.

If you believe you have been discriminated against in any program, activity, or facility please write:

ADF&G ADA Coordinator, P.O. Box 115526, Juneau, AK 99811-5526
U.S. Fish and Wildlife Service, 4401 N. Fairfax Drive, MS 2042, Arlington, VA 22203
Office of Equal Opportunity, U.S. Department of the Interior, 1849 C Street NW MS 5230, Washington DC 20240

The department's ADA Coordinator can be reached via phone at the following numbers:

(VOICE) 907-465-6077, (Statewide Telecommunication Device for the Deaf) 1-800-478-3648,
(Juneau TDD) 907-465-3646, or (FAX) 907-465-6078

For information on alternative formats and questions on this publication, please contact:

ADF&G Division of Sport Fish, Research and Technical Services, 333 Raspberry Road, Anchorage AK 99518 (907) 267-2375.

TABLE OF CONTENTS

	Page
LIST OF TABLES.....	i
LIST OF FIGURES	ii
ABSTRACT	1
INTRODUCTION	1
Alaska Peninsula Management Area	1
Aleutian Islands Management Area.....	2
Commercial Catch Sampling Background.....	2
Project Goals	3
METHODS.....	3
Adult Salmon Escapement and Catch Sampling	3
Juvenile Sockeye Salmon Sampling.....	4
Nelson River Sockeye Salmon Run Reconstruction.....	5
Bear River Late-Run Sockeye Salmon Run Reconstruction	5
RESULTS.....	5
Adult Sockeye Salmon Escapement, Age, Sex, and Size Data.....	5
Juvenile Sockeye Salmon Age, Size, and Condition	5
Commercial Salmon Catch and Age Data	6
Test Fishery Salmon Catch and Data.....	6
Nelson River Sockeye Salmon Run Reconstruction.....	6
Bear River Late-Run Sockeye Salmon Reconstruction	7
McLees Lake	7
ACKNOWLEDGMENTS	7
REFERENCES CITED	8

LIST OF TABLES

Table	Page
1. Statistical weeks and corresponding calendar dates, 2011.....	12
2. Daily and cumulative sockeye salmon escapement counted through weirs by system, Alaska Peninsula Management Area, 2011.....	13
3. Estimated age composition of sockeye salmon escapement, by system, Alaska Peninsula Management Area, 2011.....	17
4. Historical Alaska Peninsula sockeye salmon escapements and escapement goals of systems with weirs, 1986–2011 (Escapement goals from Witteveen et al., 2009).	18
5. Estimated age composition of sockeye salmon escapement in percent, by system, Alaska Peninsula Management Area, 2008–2011.	19
6. Estimated age composition of Orzinski Lake sockeye salmon escapement by week, 2011.....	20
7. Estimated age composition of Nelson River sockeye salmon escapement by week, 2011.....	21
8. Estimated age composition of Sandy River sockeye salmon escapement by week, 2011.....	22
9. Estimated age composition of Bear River sockeye salmon escapement by week, 2011.....	23
10. Estimated age composition of Bear River early-run sockeye salmon escapement (through 31 July) by week, 2011.....	25

LIST OF TABLES (Continued)

Table		Page
11. Estimated age composition of Bear River late-run sockeye salmon escapement (post 31 July) by week, 2011.....		26
12. Estimated age composition of Ilnik River sockeye salmon escapement by week, 2011.....		27
13. Length composition of Orzinski Lake sockeye salmon escapement samples by age and sex, 2011.....		28
14. Length composition of Nelson River sockeye salmon escapement samples by age and sex, 2011.....		29
15. Length composition of Sandy River sockeye salmon escapement samples by age and sex, 2011.....		30
16. Length composition of Bear River early-run sockeye salmon escapement (through 31 July) samples by age and sex, 2011.....		31
17. Length composition of Bear River late-run sockeye salmon escapement (post 31 July) samples by age and sex, 2011.....		32
18. Length composition of Ilnik River sockeye salmon escapement samples by age and sex, 2011.....		33
19. Estimated sex composition of Orzinski Lake sockeye salmon escapement by week, 2011.....		34
20. Estimated sex composition of Nelson River sockeye salmon escapement by week, 2011.....		34
21. Estimated sex composition of Sandy River sockeye salmon escapement by week, 2011.....		35
22. Estimated sex composition of Ilnik River sockeye salmon escapement by week, 2011.....		35
23. Estimated sex composition of Bear River sockeye salmon escapement by week, 2011.....		36
24. Age composition of Bear River sockeye salmon smolt samples by week, 2011.....		37
25. Length, weight, and condition of Bear River sockeye salmon smolt samples, by age and week, 2011.....		38
26. Age composition of all available Bear River sockeye salmon smolt samples, 1967–2011.....		39
27. Alaska Peninsula Management Area commercial salmon catch in numbers of fish by statistical area, section, and district, 2011.....		42
28. Estimated age composition of sampled sockeye salmon catches by area, Alaska Peninsula Management Area, 2011.....		48
29. Estimated age composition of Nelson Lagoon Section (313-30) commercial sockeye salmon catch, 2011.....		49
30. Estimated age composition of Harbor Point-Strogonoof Point (314-12 and 315-00 through 315-99) commercial sockeye salmon catch 30 August–5 September, 2011.....		50
31. Alaska Peninsula Management Area commercial salmon test fishery catch in numbers of fish by statistical area, section, and delivery date, 2011.....		51
32. Estimated age composition of the Bear River Section test fishery, 2 August and 9 August, 2011.....		52
33. Nelson River sockeye salmon escapement, estimated catch by area, and estimated total run, by age, 2011.....		53
34. Nelson River sockeye salmon brood table, 1978–2011.....		54
35. Estimated Bear River sockeye salmon late-run catch, escapement, and total late run, by age, 2011.....		55
36. Bear River late-run (post 31 July) sockeye salmon brood table, 1980–2011.....		56
37. Estimated age composition of McLees Lake sockeye salmon escapement by week, 2011.....		57
38. Length composition of McLees Lake sockeye salmon escapement samples by age and sex, 2011.....		58
39. Estimated sex composition of McLees Lake sockeye salmon escapement by week, 2011.....		59

LIST OF FIGURES

Figure		Page
1. Map of the Alaska Peninsula and a portion of the Aleutian Islands Management Areas with weir locations identified.....		60
2. Map of the Northern District depicting the statistical salmon fishing areas.....		61
3. Nelson River sockeye salmon escapement, catch, and run estimates, 1988 to 2011, and the recent 10-year average estimated run (2001 to 2010).		62
4. Bear River late-run sockeye salmon escapement, catch, and run estimates, 1988 to 2011, and the recent 10-year average estimated run (2001 to 2010).		62

ABSTRACT

This report summarizes the results of the 2011 Alaska Peninsula and Aleutian Islands Management Area (Area M) catch and escapement sampling programs. The purpose of this report is to serve as a compilation of data; interpretation and discussion of these data are limited. Sockeye salmon *Oncorhynchus nerka* escapements, commercial harvest, and smolt were sampled throughout the Alaska Peninsula and Aleutian Islands Management Areas. The Alaska Department of Fish and Game operated weirs at Orzinski Lake and the Nelson, Bear, Sandy, and Ilnik rivers where adult sockeye salmon were sampled for age, sex, and length. Additionally, the U.S. Fish and Wildlife Service operated a weir and collected samples at McLees Lake on Unalaska Island. In 2011, a total of 5,261 adult sockeye salmon were sampled and used to represent a combined escapement of 555,366 sockeye salmon counted on weired systems throughout the area. A total of 1,184 outmigrating sockeye salmon smolt were also sampled for age, weight, and length from Bear Lake. In 2011, approximately 10 million salmon were harvested in the Alaska Peninsula and Aleutian Islands Management Areas. Scale samples were obtained from commercial fish catches in the Northern District of the Alaska Peninsula Management Area M. In the Nelson Lagoon section, scale samples from 1,568 sockeye salmon were used to represent a commercial catch totaling 74,808 sockeye salmon; from Harbor Point to Stroganof Point, scale samples from 707 sockeye salmon were used to represent a commercial catch totaling 77,668 sockeye salmon. The age structure of the late run of sockeye salmon to Bear River and the entire sockeye salmon run to Nelson River were estimated from the escapement and catch data associated with those systems and used for run reconstruction and return-per-spawner analyses.

Key words: Alaska Peninsula, Aleutian Islands, Area M, commercial catch, escapement, sampling, age, ASL, Chinook, sockeye, coho, pink, chum, salmon, *Oncorhynchus tshawytscha*, *nerka*, *kisutch*, *gorbuscha*, *keta*.

INTRODUCTION

This report summarizes results of the salmon escapement and catch sampling programs in the Alaska Peninsula and Aleutians Islands management areas in 2011. This report is a compilation of data with limited interpretation and is not intended as a rigorous analysis. The emphasis of this report is on sockeye salmon.

ALASKA PENINSULA MANAGEMENT AREA

The Alaska Peninsula Management Area (APMA) portion of Area M consists of 2 sub-areas: 1) the South Alaska Peninsula, which includes the coastal waters west of Kupreanof Point to Scotch Cap; and 2) the North Alaska Peninsula, which extends from Cape Menshikof west to Cape Sarichef (Figure 1). The South Peninsula is made up of 4 fishing districts: the Southeastern, South Central, Southwestern, and Unimak districts. The North Peninsula is made up of 2 fishing districts: the Northwestern and Northern districts.

About 307 salmon systems are located throughout the APMA. The South Alaska Peninsula has 224 salmon systems and the North Alaska Peninsula has 83 systems (McCullough 2001; Murphy 1992). These systems combined support 5 commercially-important salmon species: Chinook *Oncorhynchus tshawytscha*, sockeye *O. nerka*, coho *O. kisutch*, pink *O. gorbuscha*, and chum *O. keta* salmon.

Alaska Peninsula salmon escapement is estimated by the Alaska Department of Fish and Game (ADF&G) through the use of aerial surveys on most streams and through the use of fish weirs at 5 major sockeye salmon producing systems: Orzinski Lake on the South Alaska Peninsula, and the Nelson, Bear, Sandy, and Ilnik rivers on the North Alaska Peninsula (Figure 1). Two temporally distinct runs of sockeye salmon return to Bear River; the early run enters Bear River from early June through 31 July, and the late run enters the system after 31 July (Ramstad 1998).

Other area streams are monitored by aerial and foot surveys. Data from these surveys are not presented in this report, but can be found in the appropriate Alaska Peninsula annual management reports such as Poetter and Keyse (2012), Poetter et al. (2012), Wilburn and Keyse (2012) and Wilburn and Murphy (2012).

ALEUTIAN ISLANDS MANAGEMENT AREA

The Aleutian Islands Management Area (AIMA) is part of the Alaska Peninsula Salmon Management Area (Area M). The AIMA portion of Area M consists of Bering Sea and Pacific Ocean waters extending west of Unimak Island, excluding the Atka-Amlia Management Area but including the Pribilof Islands. There are numerous salmon streams throughout the AIMA, and local residents frequently harvest sockeye, coho, and pink salmon for subsistence purposes. Commercial salmon catches have occurred during 6 of the most recent 10 years (2006 through 2011) in the AIMA. The U.S. Fish and Wildlife Service (USFWS) operated a fish counting weir on the outlet of McLees Lake on Unalaska Island in 2011 (Figure 1). Other area streams are monitored by aerial and foot surveys; their associated escapement data are not presented in this report but can be found in the appropriate Aleutian Islands annual management reports such as Poetter and Keyse (2012).

COMMERCIAL CATCH SAMPLING BACKGROUND

The number of commercial catch areas that were sampled on the Alaska Peninsula was gradually reduced from 16 areas in 1998 to 2 areas in 2006. Sampling currently remains at this level (Bouwens et al. 2001–2004; Foster 2009, 2011; Nelson et al. 1999, 2000; Tschersich et al. 2005, 2007, 2008; Tschersich and Foster 2006). Changes in the number of areas sampled reflect shifts in priorities for the resources allocated by ADF&G's research and management branches, a decline in the relative economic importance of salmon species other than sockeye salmon, changes in fishing patterns by the commercial fleet, and reductions in budgets dedicated to catch sampling operations.

In February of 2002, ADF&G research and management biologists met to discuss the utility of samples collected from the commercial catch in the Westward Region (Unpublished ADF&G Commercial Fisheries Division memo from Mark Witteveen, finfish research biologist, to Denby Lloyd, Regional Supervisor, March 4, 2002, Kodiak, Alaska). The utility of each catch sample was evaluated based on its usefulness for the following objectives: 1) developing brood tables to evaluate long-term production and forecasting, 2) identifying seasonal shifts in age composition of a mixed-stock catch, 3) identifying inter-annual shifts in age composition of a mixed-stock catch, 4) recognizing specific stocks within a mixed stock catch when age markers are present, and 5) determining stock composition estimates using scale pattern analysis (SPA). The consensus was that Southeastern District Mainland (SEDM) and Shumagin Islands sockeye salmon catch samples were not useful for achieving any of these objectives because of the limited utility of using scale information to determine stock proportion or origin in these areas. SEDM catch sampling was discontinued in 2002 and Shumagin Islands catch sampling was discontinued in 2003. Although the commercial salmon catch samples of Chinook, chum, and coho salmon from the Nelson Lagoon Section and the sections ranging from Harbor Point to Stroganof Point were useful, they had limited utility in exploring age-class abundance for forecasting runs for the subsequent year (Bouwens et al. 2003) and were eliminated, leaving only Northern District sockeye salmon catch samples remaining.

PROJECT GOALS

Salmon escapements at weir sites are sampled regularly from early June through late August for age, sex, and length information (ASL). Commercial catches are sampled for age only. These data continue to expand the ADF&G Alaska Peninsula and Aleutian Islands Management Areas salmon database. The primary species sampled for ASL data is sockeye salmon. Salmon species, other than sockeye, are not currently sampled from commercial catches due to the lack of utility in achieving any of the 5 objectives listed in the commercial catch sampling background.

Determining the age composition of stocks allows current returns to be linked to distinct spawning generations. In runs where specific sockeye salmon escapement and catch data can be combined to estimate the age structure of the run, brood tables can be generated for more accurate run forecasts. Correlating the management actions and environmental conditions of a given year to the return from stocks which spawned that year aids in developing an understanding of the system, and leads to better fisheries and higher quality management.

Additionally, sockeye salmon smolt (age, weight, and length) samples are collected weekly at Bear River when possible to serve as an index of outmigration age composition and smolt body condition. These data are important indicators of the health and productivity of the lake system and assist in forecasting future returns.

METHODS

ADULT SALMON ESCAPEMENT AND CATCH SAMPLING

Alaska Peninsula sockeye salmon escapement estimates for 2011 were based primarily on weir counts, with the addition of pre- or post-weir estimates at Bear, Nelson, Sandy, and Ilnik rivers. Daily weir count data were entered into the ADF&G, Division of Commercial Fisheries, Westward Region escapement database.

Sockeye salmon were sampled for ASL at Orzinski Lake, Nelson River, Bear River, Sandy River, Ilnik River, and McLees Lake weirs (Figure 1), with a targeted weekly sample size of 240 fish per system (Table 1; Thompson 1987).

Commercial sockeye salmon catches were sampled weekly ($n=400$; Thompson 1987) for age data. A detailed description of the Alaska Peninsula escapement and catch sampling programs can be found in Murphy et al. (2011).

All scales were collected following procedures outlined by the International North Pacific Fisheries Commission (INPFC 1963). Scales were mounted on gum cards and impressions were made on cellulose acetate (Clutter and Whitesel 1956). Fish ages were assigned by examining annual growth increments from scale impressions using a microfiche reader fitted with a 60X lens following designation criteria established by Mosher (1968). Ages were recorded using European notation (Koo 1962), where a decimal point separates the number of winters spent in freshwater (after emergence) from the number of winters spent in saltwater. The total age of the fish includes an additional winter representing the time between egg deposition and fry emergence.

Length measurements were taken from mid eye to tail fork (METF) in millimeters, and sex was determined from external morphological characteristics.

All data were recorded using a rugged digital assistant (RDA) and entered directly into the database via the Kodiak intranet salmon aging utility using a programmable keyboard (X-keys). Escapement ASL compositions were computed for each system sampled. Age and sex composition estimates were linearly interpolated for days between sampling events, and extrapolated using data from the nearest statistical week in which age and sex data were available for periods before and after samples were collected, then summarized by statistical week. The age composition in the sample was apportioned to the escapement of the statistical period (week). Length composition data were summarized by age and sex and represented only the fish sampled.

Salmon catch data by area and species were obtained from the ADF&G, Division of Commercial Fisheries, Westward Region catch database of individual sales receipts (fish tickets). This database was edited by ADF&G area management personnel prior to summaries being generated in January 2012. When weekly samples were obtained from the commercial catch, catch-at-age by area and day were estimated by multiplying the daily age composition of a particular sample by the daily catch from the corresponding catch area. Salmon age composition of the catch from days not sampled was estimated using linear interpolation between sampling events.

Descriptions of component programs used to compute age, length, and sex composition summaries can be found in database end user documentation (Unpublished ADF&G Commercial Fisheries Division database documentation obtained from Neil Moomey, Kodiak, Alaska, 2010).

JUVENILE SOCKEYE SALMON SAMPLING

Sockeye salmon smolt from Bear River were sampled for age (scales), length, and weight. A target sample of 200 smolt per statistical week was collected using a fyke net. When more than 200 smolt were captured in a day, they were placed in a holding tank and a random sample of 200 smolt was taken. After anesthetizing the smolt with MS-222, lengths were measured (snout tip to tail fork) to the nearest mm and weights were measured to the nearest 0.1 g using a digital balance. A smear of scales was taken from the preferred area (INPFC 1963) and mounted on a standard microscope slide. Age classification was conducted using a microfiche reader fitted with a 60X lens following age designation criteria established by Mosher (1968). Age composition, length, weight, and condition factor were calculated for each system by statistical week (Table 1). No attempt was made to estimate smolt abundance in 2011.

Condition factor was calculated for each smolt sampled using Bagenal and Tesch (1978):

$$\hat{K} = \frac{W}{L^3} 10^5,$$

where,

\hat{K} = smolt condition factor,

W = smolt weight (g),

L = smolt length (mm).

NELSON RIVER SOCKEYE SALMON RUN RECONSTRUCTION

The Nelson River sockeye salmon run reconstruction was accomplished by combining Nelson River escapement estimates and Nelson Lagoon (ADF&G statistical area 313-30; Figure 2) catch by age class. The catch numbers omitted minor age classes not found in the escapement in order to avoid misrepresentation in the brood table. The resulting estimates by age class were assigned to the parent year (brood year) escapement and return-per-spawner (R/S) estimates were calculated by dividing total return by its respective parent year escapement.

BEAR RIVER LATE-RUN SOCKEYE SALMON RUN RECONSTRUCTION

Run reconstruction of the late sockeye salmon run at Bear River was accomplished by combining the Bear River late run (post 31 July) escapement estimates with catches by age class from Harbor Point to Stroganof Point post 31 July (Figure 2; ADF&G statistical areas 314-12, 315-11, 315-20, 316-10, 316-20, and 316-25). The catch numbers omitted minor age classes not found in the escapement in order to avoid misrepresentation in the brood table. The resulting estimates by age class were assigned to the parent year (brood year) escapement and return-per-spawner (R/S) estimates were calculated by dividing total return by its respective parent year escapement.

RESULTS

ADULT SOCKEYE SALMON ESCAPEMENT, AGE, SEX, AND SIZE DATA

A combined total escapement (including pre- and post-weir estimates) of 518,764 sockeye salmon at Orzinski, Nelson, Sandy, Bear, and Ilnik river systems were estimated through ADF&G weirs in the Alaska Peninsula Management Area during 2011 (Table 2). From these systems, 4,622 sockeye salmon sampled for ASL data were used to represent the escapement (Table 3). Escapement estimates were lower in 2011 than in 2010 at all ADF&G weirs in the Alaska Peninsula Management Area (Table 4).

Age classes are highly variable between systems. Among all systems combined, the 2011 sockeye salmon escapement consisted of age-2.3 fish (31.3%), followed by age 2.2 (29.8%), 1.3 (21.5%), and 1.2 (9.5%; Table 3). The predominant age classes at Orzinski were age 1.3 (44.9%), 1.2 (28.0%), and 2.2 (16.1%; Tables 5 and 6). In Nelson River, the percentage of age-2.2 fish was highest (64.2%), followed by age 2.3 (10.5%) and age 1.3 (9.2%; Tables 5 and 7). Sockeye salmon at Sandy River were primarily age 1.3 (48.9%), 1.2 (22.2%), and 0.3 (7.5%; Tables 5 and 8). The predominant age classes in Bear River were age 2.3 (42.4%), 2.2 (26.8%), and 1.3 (18.5%; Tables 5 and 9). As is typical, the freshwater-age-1 percentage was higher in the Bear River early run than in the late run (Tables 10 and 11). In Ilnik River, the escapement consisted primarily of age-1.3 fish (42.7%), followed by age 0.3 (24.4%) and age 2.3 (12.8%; Tables 5 and 12). The average lengths of sockeye salmon sampled at Alaska Peninsula ADF&G weirs ranged from 495 mm at Nelson River to 580 mm at Ilnik River (Tables 13–18). The overall percentage of females observed in the escapement in 2011 ranged from 45.3% at Ilnik River to 58.3% at Sandy River (Tables 19–23).

JUVENILE SOCKEYE SALMON AGE, SIZE, AND CONDITION

Sockeye salmon smolts were sampled during the beginning of June through early August at Bear Lake (statistical weeks 24 through 32; Table 24). The sampled fish were 53.6% freshwater age 2, 45.2% freshwater age 1, and 1.2% freshwater age 3 ($n=1,184$; Table 24). The mean lengths of

freshwater-age-1, -age-2, and -age-3 smolt at Bear River were 107, 114, and 133 mm, respectively (Table 25). Historically, the majority of the smolt sampled at Bear River were freshwater age 2, except in 1988, 1998, and from 2002 to 2005 when the majority of smolt in the samples were freshwater age 1 (Table 26).

COMMERCIAL SALMON CATCH AND AGE DATA

The 2011 commercial catch for the Alaska Peninsula and Aleutians Islands Management Areas totaled 10,050,049 salmon, consisting of 9,585 Chinook, 2,846,726 sockeye, 172,945 coho, 5,747,523 pink, and 1,273,270 chum salmon (Table 27). This is 4,360,365 fewer salmon than were harvested in 2010.

A total of 2,275 sampled sockeye salmon were used for age information from 2 areas (Nelson Lagoon Section and Harbor Point to Strogonof Point) on the North Alaska Peninsula, representing a combined catch of about 152,476 fish (Tables 28–30). In the Nelson Lagoon Section, the estimated age classes of these catches were primarily age 2.2 (54.6%) and age 1.3 (25.1%; Table 29). From Harbor Point to Strogonof Point, the predominant age classes of the catches were age 1.3 (60.7%) and age 1.1 (25.2; Table 30).

The sampling program was reduced substantially in 2008 and thus the number of samples collected was much greater in 2006 and 2007 than from 2009–2011 (Foster 2009; Foster 2011; Tschersich and Foster 2006; Tschersich et al. 2008).

TEST FISHERY SALMON CATCH AND DATA

ADF&G conducted commercial test fisheries at Stepovak Bay, SW Stepovak Section, Unga Cape/East Popof, and Bear River sections. The 2011 test fishery catch for the South Alaska Peninsula totaled 15,970 salmon, consisting of 7 Chinook, 2,396 sockeye, 49 coho, 12,086 pink, and 1,432 chum salmon (Table 31). The North Alaska Peninsula test fishery catch totaled 2,555 salmon, consisting of 1 Chinook, 2,434 sockeye, 21 coho, 33 pink, and 66 chum salmon (Table 31).

Age samples were only collected from the Bear River section test fishery during 2 statistical weeks. The predominant age classes of the catch in this section was age 2.3 (78.5%), 2.2 (15.3%), and 1.3 (5.1%; Table 32).

NELSON RIVER SOCKEYE SALMON RUN RECONSTRUCTION

The estimated sockeye salmon run¹ to Nelson River was an estimated 162,903 fish in 2011, with age-2.2 fish accounting for 60.2% and age-1.3 fish accounting for 16.5% of the run (Table 33). This was 37,231 fewer fish than the 2010 estimated run of 200,134, and 362,018 fish fewer than the recent 10-year average (2001–2010) estimated run of 524,921 sockeye salmon (Figure 3). The 1995–2004 escapements to Nelson River (the most recent 10 year span with complete return information) have produced an estimated average return² of 543,339 fish (range: 279,660 to 1,103,081; Table 34), and an average R/S of 2.5 (Table 34).

¹ *Run* refers to an aggregation of salmon of all ages returning from the ocean to spawn in a specific system in any given year and includes harvest and escapement.

² *Return* refers to an aggregation of salmon over several years that represent all the surviving adult offspring from a single brood year.

BEAR RIVER LATE-RUN SOCKEYE SALMON RECONSTRUCTION

The late run to Bear River in 2011 was an estimated 210,107 sockeye salmon, with age-2.3 fish accounting for 55.8% and age-1.3 fish accounting for 24.1% of the late run (Table 35). The estimated 2011 late run was about 232,727 fish fewer than the 2010 estimated late run of 442,834 fish and about 310,444 fewer than the recent 10-year average of 520,551 fish (Figure 4). The 1995–2004 late-run escapements to Bear River (the most recent 10 year span with complete return information) have produced an estimated average return of 528,685 fish (range: 114,120 to 1,042,388; Table 35). The average R/S for this period was 4.8 (Table 36).

MCLEES LAKE

In 2011, USFWS operated a weir at McLees Lake from the middle of June until the middle of July. A total of 639 sockeye salmon were sampled to represent an escapement of 36,602 fish (Table 37). Age-1.3 sockeye salmon (86.6%) were the most abundant age class in the escapement, followed by age-1.2 fish (9.1%; Table 37). The average size of sampled sockeye salmon sampled at McLees Lake was 554 mm, ranging from 367 mm to 625 mm (Table 38). Females in McLees Lake represented 50.5% of the escapement (Table 39).

ACKNOWLEDGMENTS

The author gratefully acknowledges the many ADF&G employees who assisted with this project. Area Management Biologists (AMB) Bob Murphy and Aaron Poetter along with assistant AMBs Dawn Wilburn, Matt Keyse, and Aaron Tiernan facilitated the collection and processing of the data necessary for this report. Many special thanks go out to the many hard workers who collected field data and/or assisted with logistics. Dawn Wilburn and Michelle Moore aged all sockeye salmon scales. Steve Hakala and Paul Horn piloted and maintained ADF&G aircraft. Lindsay Gann contributed publication expertise. Aaron Tiernan, Dawn Wilburn, Adam StSaviour and an anonymous peer reviewed drafts of this report.

REFERENCES CITED

- Bagenal, T. B., and F. W. Tesch. 1978. Age and growth, p. 101-136. [In] T. Bagenal editor. Methods for assessment of fish production in fresh waters. Blackwell Scientific Publications Ltd. London.
- Bouwens, K. A., M. B. Foster, and R. L. Murphy. 2001. Alaska Peninsula management area salmon escapement and catch sampling results, 2000. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report 4K01-8, Kodiak.
- Bouwens, K. A., M. B. Foster, and R. L. Murphy. 2003. Alaska Peninsula management area salmon escapement and catch sampling results, 2002. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report 4K03-35, Kodiak. <http://www.adfg.alaska.gov/FedAidPDFs/RIR.4K.2003.35.pdf>
- Bouwens, K. A., M. B. Foster, and R. L. Murphy. 2004. Alaska Peninsula and Aleutian Islands management areas salmon escapement and catch sampling results, 2003. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report 4K04-28, Kodiak. <http://www.adfg.alaska.gov/FedAidPDFs/RIR.4K.2004.28.pdf>
- Bouwens, K. A., M. B. Foster, K. Spalinger, and R. L. Murphy. 2002. Alaska Peninsula management area salmon escapement and catch sampling results, 2001. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report 4K02-46, Kodiak.
- Clutter, R., and L. Whitesel. 1956. Collection and interpretation of sockeye salmon scales. International Pacific Salmon Fisheries Commission, Bulletin 9, New Westminster, British Columbia, Canada.
- Foster, M. B. 2009. Alaska Peninsula and Aleutian Islands Management Areas salmon escapement and catch sampling results, 2008. Alaska Department of Fish and Game, Fishery Management Report No. 09-22, Anchorage. <http://www.adfg.alaska.gov/FedAidPDFs/FMR09-22.pdf>
- Foster, M. B. 2011. Alaska Peninsula and Aleutian Islands Management Areas salmon escapement and catch sampling results, 2009. Alaska Department of Fish and Game, Fishery Management Report No. 11-15, Anchorage. <http://www.adfg.alaska.gov/FedAidPDFs/FMR11-15>
- INPFC (International North Pacific Fisheries Commission). 1963. Annual report 1961. Vancouver, British Columbia, Canada.
- Koo, T. S. Y. 1962. Studies of Alaska red salmon. University of Washington, Publications in Fisheries, New series, Volume I. Seattle.
- McCullough, J. N. 2001. Alaska Peninsula management area salmon systems: Manager's manual. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report 4K01-1, Kodiak.
- Mosher, K. H. 1968. Photographic atlas of sockeye salmon scales. Bureau of the U.S. Fish and Wildlife Service. Fishery Bulletin 67(2):243-280.
- Murphy, R. L. 1992. Number of salmon systems and distribution of escapements in the Alaska Peninsula and Aleutian Islands Management Areas, 1986-91. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report 4K92-15, Kodiak.
- Murphy, R. L., T. G. Hartill, and A. D. Poetter. 2011. Alaska Peninsula salmon operational plans, 2011. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report 4K11-04, Kodiak. <http://www.adfg.alaska.gov/FedAidPDFs/RIR.4K.2011.04.pdf>
- Nelson, P. A., M. B. Foster, K. A. Bouwens, and R. L. Murphy. 2000. Alaska Peninsula management area salmon escapement and catch sampling results, 1999. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report 4K00-62, Kodiak.
- Nelson, P. A., R. L. Murphy, and J. A. Wadle. 1999. Alaska Peninsula management area salmon escapement and catch sampling results, 1998. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report 4K99-42, Kodiak.

REFERENCES CITED (Continued)

- Poetter, A. D., and M. Keyse. 2012. Aleutian Islands and Atka-Amlia Islands management areas salmon annual management report, 2011. Alaska Department of Fish and Game, Fishery Management Report No. 12-19, Anchorage. <http://www.adfg.alaska.gov/FedAidPDFs/FMR12-19.pdf>
- Poetter, A. D., M. D. Keyse, and A. R. Tiernan. 2012. South Alaska Peninsula salmon annual management report, 2011. Alaska Department of Fish and Game, Fishery Management Report No. 12-29, Anchorage. <http://www.adfg.alaska.gov/FedAidPDFs/FMR12-29.pdf>
- Ramstad, K. M. 1998. Morphological, life history, and genetic comparison of early and late run sockeye salmon (*Oncorhynchus nerka*) of Bear Lake, Alaska. Master's thesis. University of Washington, Seattle.
- Thompson, S. K. 1987. Sample size for estimating multinomial proportions. *The American Statistician* 41 (1):42-46.
- Tschersich, P., and M. B. Foster. 2006. Alaska Peninsula and Aleutian Islands management areas salmon escapement and catch sampling results, 2005. Alaska Department of Fish and Game, Fishery Management Report No. 06-28, Anchorage. <http://www.adfg.alaska.gov/FedAidPDFs/fmr06-28.pdf>
- Tschersich, P., M. B. Foster, and R. L. Murphy. 2007. Alaska Peninsula and Aleutian Islands management areas salmon escapement and catch sampling results, 2006. Alaska Department of Fish and Game, Fishery Management Report No. 07-24, Anchorage. <http://www.adfg.alaska.gov/FedAidPDFs/fmr07-24.pdf>
- Tschersich, P., M. B. Foster, and N. L. Zeiser. 2008. Alaska Peninsula and Aleutian Islands management areas salmon escapement and catch sampling results, 2007. Alaska Department of Fish and Game, Fishery Management Report No. 08-08, Anchorage. <http://www.adfg.alaska.gov/FedAidPDFs/fmr08-08.pdf>
- Tschersich, P., R. L. Murphy, and M. B. Foster. 2005. Alaska Peninsula and Aleutian Islands Management Areas salmon escapement and catch sampling results, 2004. Alaska Department of Fish and Game, Fishery Management Report No. 05-60, Anchorage. <http://www.adfg.alaska.gov/FedAidPDFs/fmr05-60.pdf>
- Wilburn, D. W., and M. D. Keyse. 2012. Annual summary of the commercial and subsistence salmon fisheries and salmon escapements in the Alaska Peninsula, Aleutian Islands, and Atka-Amlia Islands Management Areas, 2011. Alaska Department of Fish and Game, Fishery Management Report No. 12-26, Anchorage. <http://www.adfg.alaska.gov/FedAidPDFs/FMR12-26.pdf>
- Wilburn, D. W., and R. L. Murphy. 2012. North Alaska Peninsula commercial salmon annual management report, 2011. Alaska Department of Fish and Game, Fishery Management Report No. 12-11, Anchorage. <http://www.adfg.alaska.gov/FedAidPDFs/FMR12-11.pdf>
- Witteveen, M. J., H. Finkle, M. Loewen, M. B. Foster, and J. W. Erickson. 2009. Review of salmon escapement goals in the Alaska Peninsula and Aleutian Islands Management Areas; A Report to the Alaska Board of Fisheries, 2010. Alaska Department of Fish and Game, Fishery Manuscript No. 09-09, Anchorage. <http://www.adfg.alaska.gov/FedAidpdfs/FMS09-09.pdf>

TABLES AND FIGURES

Table 1.—Statistical weeks and corresponding calendar dates, 2011.

Week	Calendar Dates			Week	Calendar Dates		
10	1-Mar	—	7-Mar	28	5-Jul	—	11-Jul
11	8-Mar	—	14-Mar	29	12-Jul	—	18-Jul
12	15-Mar	—	21-Mar	30	19-Jul	—	25-Jul
13	22-Mar	—	28-Mar	31	26-Jul	—	1-Aug
14	29-Mar	—	4-Apr	32	2-Aug	—	8-Aug
15	5-Apr	—	11-Apr	33	9-Aug	—	15-Aug
16	12-Apr	—	18-Apr	34	16-Aug	—	22-Aug
17	19-Apr	—	25-Apr	35	23-Aug	—	29-Aug
18	26-Apr	—	2-May	36	30-Aug	—	5-Sep
19	3-May	—	9-May	37	6-Sep	—	12-Sep
20	10-May	—	16-May	38	13-Sep	—	19-Sep
21	17-May	—	23-May	39	20-Sep	—	26-Sep
22	24-May	—	30-May	40	27-Sep	—	3-Oct
23	31-May	—	6-Jun	41	4-Oct	—	10-Oct
24	7-Jun	—	13-Jun	42	11-Oct	—	17-Oct
25	14-Jun	—	20-Jun	43	18-Oct	—	24-Oct
26	21-Jun	—	27-Jun	44	25-Oct	—	31-Oct
27	28-Jun	—	4-Jul	45	1-Nov	—	7-Nov

Table 2.—Daily and cumulative sockeye salmon escapement counted through weirs by system, Alaska Peninsula Management Area, 2011.

Date	Orzinski Lake		Nelson River		Bear River		Sandy River		Ilnik River		McLees Lake	
	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.
29-May									0	0		
30-May									0	0		
31-May									0	0		
1-Jun					0	0			86	86		
2-Jun					0	0			0	86		
3-Jun		20	20	0	0				33	119		
4-Jun		50	70	35	35				84	203		
5-Jun		100	170	106	141				102	305		
6-Jun		400	570	131	272				135	440		
7-Jun		400	970	329	601				220	660		
8-Jun		400	1,370	246	847				313	973		
9-Jun	0	0	300	1,670	393	1,240			41	1,014		
10-Jun	0	0	300	1,970	236	1,476			67	1,081	15	15
11-Jun	0	0	500	2,470	827	2,303			110	1,191	113	128
12-Jun	0	0	700	3,170	865	3,168			377	1,568	1,333	1,461
13-Jun	0	0	2,000	5,170	797	3,965			915	2,483	1,191	2,652
14-Jun	0	0	2,000	7,170	424	4,389	0	0	1,056	3,539	1,276	3,928
15-Jun	0	0	1,500	8,670	430	4,819	11	11	1,163	4,702	863	4,791
16-Jun	0	0	1,000	9,670	892	5,711	4	15	1,399	6,101	1,834	6,625
17-Jun	6	6	1,000	10,670	2,747	8,458	45	60	2,029	8,130	161	6,786
18-Jun	0	6	1,000	11,670	3,272	11,730	42	102	832	8,962	714	7,500
19-Jun	0	6	1,500	13,170	6,053	17,783	46	148	1,295	10,257	658	8,158
20-Jun	14	20	1,500	14,670	5,546	23,329	77	225	1,710	11,967	645	8,803
21-Jun	20	40	1,430	16,100	8,527	31,856	346	571	2,125	14,092	554	9,357
22-Jun	0	40	1,000	17,100	9,888	41,744	358	929	2,505	16,597	505	9,862
23-Jun	37	77	1,087	18,187	8,793	50,537	735	1,664	2,145	18,742	1,457	11,319

-continued-

Table 2.—Page 2 of 4.

Date	Orzinski Lake		Nelson River		Bear River		Sandy River		Ilnik River		McLees Lake	
	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.
24-Jun	20	97	1,212	19,399	8,605	59,142	902	2,566	2,143	20,885	161	11,480
25-Jun	31	128	1,509	20,908	5,778	64,920	706	3,272	1,592	22,477	2,208	13,688
26-Jun	367	495	3,037	23,945	6,418	71,338	434	3,706	5,264	27,741	1,889	15,577
27-Jun	79	574	2,422	26,367	3,599	74,937	1,279	4,985	1,596	29,337	1,173	16,750
28-Jun	18	592	1,948	28,315	4,217	79,154	1,419	6,404	334	29,671	972	17,722
29-Jun	2	594	4,877	33,192	3,706	82,860	807	7,211	1,006	30,677	2,094	19,816
30-Jun	134	728	1,980	35,172	5,087	87,947	335	7,546	1,478	32,155	1,677	21,493
1-Jul	782	1,510	2,460	37,632	9,689	97,636	399	7,945	858	33,013	178	21,671
2-Jul	68	1,578	4,853	42,485	5,671	103,307	1,185	9,130	1,278	34,291	1,927	23,598
3-Jul	43	1,621	5,105	47,590	8,267	111,574	1,259	10,389	1,030	35,321	1,285	24,883
4-Jul	1,823	3,444	5,209	52,799	3,334	114,908	1,769	12,158	1,034	36,355	1,622	26,505
5-Jul	0	3,444	4,418	57,217	3,326	118,234	961	13,119	775	37,130	1,507	28,012
6-Jul	573	4,017	1,068	58,285	2,620	120,854	1,249	14,368	819	37,949	1,838	29,850
7-Jul	5,081	9,098	1,924	60,209	5,276	126,130	673	15,041	1,028	38,977	1,203	31,053
8-Jul	1,541	10,639	2,922	63,131	4,117	130,247	459	15,500	651	39,628	895	31,948
9-Jul	250	10,889	1,938	65,069	2,856	133,103	1,000	16,500	726	40,354	1,476	33,424
10-Jul	148	11,037	3,590	68,659	2,528	135,631	662	17,162	497	40,851	995	34,419
11-Jul	304	11,341	1,844	70,503	2,510	138,141	844	18,006	235	41,086	724	35,143
12-Jul	133	11,474	2,310	72,813	2,193	140,334	1,161	19,167	274	41,360	339	35,482
13-Jul	188	11,662	2,139	74,952	4,198	144,532	1,114	20,281	136	41,496	349	35,831
14-Jul	0	11,662	585	75,537	3,470	148,002	1,454	21,735	111	41,607	125	35,956
15-Jul	440	12,102	1,575	77,112	2,457	150,459	1,291	23,026	36	41,643	188	36,144
16-Jul	58	12,160	1,027	78,139	3,009	153,468	748	23,774	357	42,000	197	36,341
17-Jul	97	12,257	1,028	79,167	2,469	155,937	564	24,338	300	42,300	213	36,554
18-Jul	98	12,355	337	79,504	2,035	157,972	636	24,974	300	42,600		
19-Jul	142	12,497	1,400	80,904	2,502	160,474	380	25,354	200	42,800		
20-Jul	409	12,906	764	81,668	2,192	162,666	279	25,633	200	43,000		
21-Jul	255	13,161	479	82,147	1,553	164,219	266	25,899				

-continued-

Table 2.—Page 3 of 4.

Date	Orzinski Lake		Nelson River		Bear River		Sandy River		Ilñik River		McLees Lake	
	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.
22-Jul	124	13,285	1,118	83,265	1,087	165,306	365	26,264				
23-Jul	317	13,602	667	83,932	2,381	167,687	459	26,723				
24-Jul	816	14,418	481	84,413	2,706	170,393	677	27,400				
25-Jul	159	14,577	473	84,886	2,638	173,031	600	28,000				
26-Jul	238	14,815	714	85,600	3,043	176,074	600	28,600				
27-Jul	973	15,788	700	86,300	3,826	179,900	500	29,100				
28-Jul	542	16,330	600	86,900	5,671	185,571	300	29,400				
29-Jul	91	16,421	600	87,500	7,686	193,257	300	29,700				
30-Jul	274	16,695	500	88,000	9,616	202,873	300	30,000				
31-Jul	28	16,723	500	88,500	4,578	207,451						
1-Aug	41	16,764	300	88,800	3,575	211,026						
2-Aug			200	89,000	1,393	212,419						
3-Aug					702	213,121						
4-Aug					1,948	215,069						
5-Aug					3,177	218,246						
6-Aug					2,825	221,071						
7-Aug					4,505	225,576						
8-Aug					3,920	229,496						
9-Aug					3,626	233,122						
10-Aug					4,291	237,413						
11-Aug					3,668	241,081						
12-Aug					4,517	245,598						
13-Aug					6,226	251,824						
14-Aug					5,380	257,204						
15-Aug					2,702	259,906						
16-Aug					3,195	263,101						
17-Aug					5,021	268,122						
18-Aug					8,134	276,256						

-continued-

Table 2.—Page 4 of 4.

Date	Orzinski Lake		Nelson River		Bear River		Sandy River		Ilnik River		McLees Lake	
	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.
19-Aug					3,340	279,596						
20-Aug					2,646	282,242						
21-Aug					4,129	286,371						
22-Aug					7,549	293,920						
23-Aug					5,739	299,659						
24-Aug					3,716	303,375						
25-Aug					2,525	305,900						
26-Aug					2,500	308,400						
27-Aug					2,200	310,600						
28-Aug					2,200	312,800						
29-Aug					2,200	315,000						
30-Aug					2,200	317,200						
31-Aug					2,000	319,200						
1-Sep					1,900	321,100						
2-Sep					1,900	323,000						
3-Sep					1,900	324,900						
4-Sep					1,800	326,700						
5-Sep					1,700	328,400						
6-Sep					1,600	330,000						
7-Sep					1,400	331,400						
8-Sep					1,400	332,800						
9-Sep					1,300	334,100						
10-Sep					1,200	335,300						
11-Sep					1,100	336,400						
12-Sep					1,000	337,400						
13-Sep					1,000	338,400						
14-Sep					1,000	339,400						
15-Sep					600	340,000						
Totals	16,764		89,000			340,000		30,000		43,000		36,554

Note: Pre- and post-weir escapement estimates are italicized.

Table 3.—Estimated age composition of sockeye salmon escapement, by system, Alaska Peninsula Management Area, 2011.

System Sample Size		Age													Total	
		0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	3.1	1.4	2.3	3.2	2.4		
<i>Orzinski Lake</i> 1,010	Percent	0.5	1.0	0.0	28.0	0.8	0.0	44.9	16.1	0.0	0.4	8.5	0.0	0.0	100.0	
	Number	79	160	0	4,700	127	0	7,521	2,695	0	59	1,423	0	0	16,764	
<i>Nelson River</i> 357	Percent	0.0	3.2	0.0	7.4	3.2	0.3	9.2	64.2	0.2	0.9	10.5	0.0	0.9	100.0	
	Number	0	2,836	0	6,621	2,859	273	8,159	57,151	147	820	9,336	0	798	0	89,000
<i>Sandy River</i> 623	Percent	6.7	1.3	7.5	22.2	0.1	0.0	48.9	6.2	0.0	0.3	6.9	0.0	0.0	100.0	
	Number	1,996	393	2,243	6,650	39	0	14,671	1,850	0	77	2,082	0	0	30,000	
<i>Bear River</i> 1,942	Percent	0.1	0.9	0.0	8.8	2.1	0.0	18.5	26.8	0.1	0.1	42.4	0.1	0.1	100.0	
	Number	246	2,896	0	29,895	7,245	0	62,809	91,243	344	423	144,123	199	356	221	340,000
<i>Ilnik River</i> 690	Percent	2.0	0.0	24.4	3.0	0.0	4.4	42.7	4.1	0.0	4.8	12.8	0.0	1.7	0.1	100.0
	Number	864	0	10,488	1,310	0	1,897	18,356	1,748	0	2,066	5,511	0	723	38	43,000
<i>Totals</i> 4,622	Percent	0.6	1.2	2.5	9.5	2.0	0.4	21.5	29.8	0.1	0.7	31.3	0.0	0.4	0.0	100.0
	Number	3,185	6,285	12,731	49,176	10,269	2,170	111,515	154,687	491	3,445	162,474	199	1,877	259	518,764

Note: Cells with values of 0.0 indicate fish of that age were not present or represented less than 0.05 percent of the total run.

Table 4.—Historical Alaska Peninsula sockeye salmon escapements and escapement goals of systems with weirs, 1986–2011 (Escapement goals from Witteveen et al., 2009).

Year	Orzinski Lake		Nelson River ^a		Bear River		Sandy River		Ilnik River ^b		McLees Lake	
	Escapement ^c	Goal	Escapement ^c	Goal	Escapement ^c	Goal	Escapement ^c	Goal	Escapement ^c	Goal	Escapement ^c	Goal
1986					272,500							
1987					258,000							
1988					310,000							
1989			193,300		451,000							
1990	15,000		240,700		546,800							
1991	40,000		268,400		606,000							
1992	25,000		162,300		450,000							
1993	24,717		207,200		452,000							
1994	38,000		325,300		465,000	200,000–						
1995	30,000		329,400		305,000	250,000						
1996	30,000		250,500	100,000–150,000	367,000							
1997	35,000		183,100		360,000							
1998	25,000		159,800		415,000							
1999	15,000		202,067		350,000							
2000	21,500	15,000–	182,700		275,000							
2001	31,200	20,000	201,962		300,000							
2002	42,849		315,693		275,000							
2003	70,690		343,511		366,000							
2004	75,450		480,097		435,000							
2005	44,797		303,000		554,000							
2006	18,000		215,000		445,000							
2007	10,665		180,000	97,000–219,000	431,000	293,000–488,000						
2008	36,839		141,600		321,000							
2009	21,457		157,000		349,500							
2010	18,039		108,000		369,500							
2011	16,724		89,000		340,000							
Average												
2001–2010	36,999		244,586		384,600							
							48,690		75,630		38,385	

^a Does not include David or Caribou Rivers.

^b From 1988 to 2004, Ocean River flowed into Ilnik Lagoon and was included in the Ilnik River sockeye salmon escapement. From 2005–2010, the Ocean River shifted and flowed directly into the Bering Sea. During this time the Ocean River escapement was added to Ilnik River escapement for standardization of time series. In 2011 the Ocean River shifted to its pre-2005 state and began flowing into Ilnik Lagoon. As before, it is included in the Ilnik river sockeye salmon escapement.

^c Totals are based on weir counts plus post-weir escapement estimates. Only those years when weirs were present are included in the table.

Table 5.—Estimated age composition of sockeye salmon escapement in percent, by system, Alaska Peninsula Management Area, 2008–2011.

System Year	Age										Total
	0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	
<i>Orzinski Lake</i>											
2008	0.0	0.2	0.0	71.8	0.1	0.0	12.2	10.5	0.2	5.1	0.0
2009	0.4	1.6	0.1	19.9	1.7	0.0	55.0	8.5	0.3	12.4	0.0
2010	0.0	0.0	0.0	17.7	0.8	0.0	43.3	29.5	0.0	8.6	0.0
2011	0.5	1.0	0.0	28.0	0.8	0.0	44.9	16.1	0.4	8.5	0.0
<i>Nelson River</i>											
2008	0.2	0.0	1.1	30.7	0.8	0.0	15.8	29.5	0.0	21.7	0.1
2009	0.2	0.3	0.4	8.1	0.4	0.1	23.1	62.3	0.5	4.5	0.2
2010	0.0	0.9	0.9	4.7	2.7	0.0	34.6	25.8	0.0	29.9	0.5
2011	0.0	3.2	0.0	7.4	3.2	0.3	9.2	64.2	0.9	10.5	1.1
<i>Sandy River</i>											
2008	1.0	0.0	21.6	20.6	0.0	0.4	50.0	4.8	0.3	1.1	0.2
2009	1.7	2.9	15.5	56.6	0.4	0.0	15.2	4.0	0.1	3.5	0.0
2010	1.4	1.5	1.6	42.9	0.1	0.0	49.7	2.0	0.0	0.7	0.0
2011	6.7	1.3	7.5	22.2	0.1	0.0	48.9	6.2	0.3	6.9	0.0
<i>Bear River</i>											
2008	0.0	0.3	0.0	13.1	4.0	0.0	25.6	37.1	0.5	19.2	0.3
2009	0.0	0.0	0.0	5.3	3.0	0.0	25.5	42.0	0.6	23.4	0.2
2010	0.0	2.3	0.0	4.3	0.9	0.0	35.0	36.9	0.1	20.5	0.0
2011	0.1	0.9	0.0	8.8	2.1	0.0	18.5	26.8	0.1	42.4	0.3
<i>Ilnik River</i>											
2008	1.4	0.0	45.4	1.2	0.0	4.8	30.6	0.4	1.4	14.7	0.2
2009	7.6	0.0	36.1	10.7	0.0	5.4	24.5	7.5	1.1	7.1	0.0
2010	0.2	0.0	8.4	4.6	0.0	2.3	65.6	3.0	0.3	15.6	0.0
2011	2.0	0.0	24.4	3.0	0.0	4.4	42.7	4.1	4.8	12.8	1.8

Note: Cells with values of 0.0 are years when fish of that age were not present or represented less than 0.05 percent of the total run.

Table 6.—Estimated age composition of Orzinski Lake sockeye salmon escapement by week, 2011.

Week	Sample Size	Age									Total	
		0.2	1.1	1.2	1.3	1.4	2.1	2.2	2.3			
25 6/14–6/20	0	Percent	0.0	1.9	37.0	37.0	0.0	1.9	13.0	9.3	100.0	
		Numbers	0	0	7	7	0	0	3	2	20	
26 6/21–6/27	54	Percent	0.0	1.7	35.7	38.7	0.1	1.7	12.9	9.2	100.0	
		Numbers	0	8	189	225	1	8	71	50	554	
27 6/28–7/4	96	Percent	0.1	0.2	23.9	52.8	0.8	0.3	13.3	8.6	100.0	
		Numbers	8	0	669	1,509	19	8	406	251	2,870	
28 7/5–7/11	253	Percent	0.7	0.1	29.4	43.9	0.1	0.8	16.5	8.5	100.0	
		Numbers	56	2	2,069	3,672	8	57	1,308	726	7,897	
29 7/12–7/18	175	Percent	0.6	1.0	43.9	29.3	0.1	1.1	18.1	5.9	100.0	
		Numbers	6	10	451	294	1	11	183	59	1,014	
30 7/19–7/25	215	Percent	0.4	2.6	29.6	36.8	0.4	1.0	20.2	9.0	100.0	
		Numbers	9	59	642	831	10	21	448	202	2,222	
31 7/26–8/1	217	Percent	0.0	3.7	30.7	44.9	0.9	0.9	12.8	6.1	100.0	
		Numbers	0	80	672	983	20	20	278	134	2,187	
Totals		Percent	0.5	1.0	28.0	44.9	0.4	0.8	16.1	8.5	100.0	
		Numbers	79	160	4,700	7,521	59	127	2,695	1,423	16,764	

Table 7.—Estimated age composition of Nelson River sockeye salmon escapement by week, 2011.

Week	Sample Size	Age										Total	
		0.4	1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4	3.1		
23–26 5/31–6/27	0	Percent	0.5	2.1	4.8	9.0	1.6	3.7	65.6	12.7	0.0	0.0	100.0
		Numbers	140	558	1,256	2,372	419	977	17,299	3,348	0	0	26,367
27 6/28–7/4	189	Percent	0.5	2.1	5.3	9.1	1.5	3.5	65.7	12.2	0.1	0.1	100.0
		Numbers	123	559	1,436	2,424	370	907	17,389	3,179	22	22	26,432
28 7/5–7/11	143	Percent	0.0	2.7	10.2	10.1	0.1	1.9	65.8	7.6	1.0	0.6	100.0
		Numbers	10	485	1,773	1,780	31	343	11,641	1,370	173	97	17,704
29 7/12–7/18	0	Percent	0.0	5.7	11.4	9.0	0.0	3.0	60.3	7.6	2.7	0.3	100.0
		Numbers	0	481	1,019	821	0	255	5,492	679	226	28	9,001
30 7/19–7/25	25	Percent	0.0	7.9	12.0	8.0	0.0	4.0	56.1	8.0	4.0	0.0	100.0
		Numbers	0	424	644	433	0	212	3,026	429	212	1	5,382
31–32 7/26–8/8	0	Percent	0.0	8.0	12.0	8.0	0.0	4.0	56.0	8.0	4.0	0.0	100.0
		Numbers	0	329	494	329	0	165	2,304	329	165	0	4,114
Totals	357	Percent	0.3	3.2	7.4	9.2	0.9	3.2	64.2	10.5	0.9	0.2	100.0
		Numbers	273	2,836	6,621	8,159	820	2,859	57,151	9,336	798	147	89,000

Note: Escapement includes a pre-weir estimate of 13,170 fish within weeks 23–25, and a post-weir estimate of 4,114 fish within weeks 31 and 32.

Table 8.—Estimated age composition of Sandy River sockeye salmon escapement by week, 2011.

Week	Sample Size	Age										Total		
		0.2	0.3	1.1	1.2	1.3	2.1	2.2	2.3	2.3				
25 6/14–6/20	0 Percent Numbers	1.2	13.5	0.0	4.1	67.1	0.0	0.0	1.8	12.4	100.0			
		3	30	0	9	151	0	0	4	28	225			
26 6/21–6/27	170 Percent Numbers	1.5	13.2	0.1	5.4	65.0	0.1	0.1	2.3	12.4	100.0			
		79	621	5	278	3,065	5	5	116	588	4,760			
27 6/28–7/4	170 Percent Numbers	3.8	10.5	0.6	14.6	52.9	0.5	0.4	5.6	11.1	100.0			
		277	737	50	1,082	3,804	36	29	404	754	7,173			
28 7/5–7/11	191 Percent Numbers	5.4	6.9	1.5	24.0	50.9	0.5	0.1	7.2	3.6	100.0			
		314	409	87	1,386	2,976	28	5	418	225	5,848			
29 7/12–7/18	92 Percent Numbers	10.7	3.9	2.1	32.0	39.8	0.1	0.0	7.6	3.9	100.0			
		723	281	142	2,202	2,818	8	0	526	269	6,968			
30–31 7/19–8/1	0 Percent Numbers	12.0	3.3	2.2	33.7	37.0	0.0	0.0	7.6	4.3	100.0			
		601	164	109	1,694	1,857	0	0	382	219	5,026			
Totals		623	Percent	6.7	7.5	1.3	22.2	48.9	0.3	0.1	6.2	6.9	100.0	
			Numbers	1,996	2,243	393	6,650	14,671	77	39	1,850	2,082	30,000	

Note: Escapement includes a post-weir estimate of 3,277 fish within weeks 30 and 31.

Table 9.—Estimated age composition of Bear River sockeye salmon escapement by week, 2011.

Week	Sample Size	Age												Total	
		0.2	1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4	3.1	3.2	3.3		
23 5/31–6/13	0	Percent	0.0	0.0	26.8	16.9	0.0	1.4	18.3	35.2	1.4	0.0	0.0	0.0	100.0
		Numbers	0	0	1,061	670	0	56	726	1,396	56	0	0	0	3,965
25 6/14–6/20	71	Percent	0.0	0.0	26.1	16.1	0.0	1.3	19.5	35.5	1.3	0.0	0.0	0.0	100.0
		Numbers	0	0	4,924	2,968	18	243	4,036	6,931	224	0	0	18	19,364
26 6/21–6/27	187	Percent	0.0	0.1	19.4	9.0	0.4	1.1	34.0	35.5	0.1	0.0	0.0	0.4	100.0
		Numbers	0	47	10,163	4,697	199	510	17,035	18,682	76	0	0	199	51,608
27 6/28–7/4	191	Percent	0.3	0.6	15.8	8.2	0.0	2.5	44.3	28.3	0.0	0.0	0.0	0.0	100.0
		Numbers	108	245	6,284	3,253	4	1,014	17,769	11,291	0	0	0	4	39,971
28 7/5–7/11	121	Percent	0.6	1.0	10.4	11.4	0.3	2.3	41.8	32.3	0.0	0.1	0.0	0.0	100.0
		Numbers	135	221	2,471	2,535	55	529	9,825	7,434	0	28	0	0	23,233
29 7/12–7/18	231	Percent	0.0	1.1	5.7	23.5	0.6	2.6	27.8	38.2	0.0	0.5	0.0	0.0	100.0
		Numbers	3	227	1,125	4,642	133	495	5,547	7,568	0	91	0	0	19,831
30 7/19–7/25	169	Percent	0.0	0.9	5.0	28.4	0.1	4.8	20.9	39.3	0.0	0.5	0.1	0.0	100.0
		Numbers	0	137	750	4,262	13	718	3,164	5,929	0	73	13	0	15,059
31 7/26–8/1	177	Percent	0.0	1.8	3.1	25.1	0.0	3.9	22.4	43.2	0.0	0.1	0.4	0.0	100.0
		Numbers	0	722	1,137	9,541	0	1,471	8,533	16,397	0	19	176	0	37,995
32 8/2–8/8	210	Percent	0.0	0.5	2.5	16.7	0.0	2.3	23.7	54.3	0.0	0.0	0.1	0.0	100.0
		Numbers	0	62	461	2,977	0	402	4,392	10,165	0	0	10	0	18,470

-continued-

Table 9.—Page 2 of 2.

Week	Sample Size	Age												Total		
		0.2	1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4	3.1	3.2	3.3			
33 8/9–8/15	199	Percent	0.0	0.9	2.7	21.9	0.0	2.4	23.9	48.1	0.0	0.1	0.0	0.0	100.0	
		Numbers	0	289	830	6,713	0	721	7,280	14,556	0	21	0	0	30,410	
34 8/16–8/22	196	Percent	0.0	1.4	1.3	23.3	0.0	1.8	18.9	53.0	0.0	0.3	0.0	0.0	100.0	
		Numbers	0	462	446	7,939	0	602	6,387	18,067	0	112	0	0	34,014	
35 8/23–8/29	190	Percent	0.0	1.1	0.5	27.4	0.0	1.1	14.2	55.8	0.0	0.0	0.0	0.0	100.0	
		Numbers	0	222	111	5,769	0	222	2,996	11,760	0	0	0	0	21,080	
36 8/23–8/29	0	Percent	0.0	1.1	0.5	27.4	0.0	1.1	14.2	55.8	0.0	0.0	0.0	0.0	100.0	
		Numbers	0	141	71	3,667	0	141	1,904	7,476	0	0	0	0	13,400	
37 8/23–8/29	0	Percent	0.0	1.1	0.5	27.4	0.0	1.1	14.2	55.8	0.0	0.0	0.0	0.0	100.0	
		Numbers	0	95	47	2,463	0	95	1,279	5,021	0	0	0	0	9,000	
24 38 8/23–8/29	0	Percent	0.0	1.1	0.5	27.4	0.0	1.1	14.2	55.8	0.0	0.0	0.0	0.0	100.0	
		Numbers	0	27	14	712	0	27	369	1,451	0	0	0	0	2,600	
Totals		Percent	0.1	0.9	8.8	18.5	0.1	2.1	26.8	42.4	0.1	0.1	0.1	0.1	100.0	
		Numbers	246	2,896	29,895	62,809	423	7,245	91,243	144,123	356	344	199	221	340,000	

Table 10.—Estimated age composition of Bear River early-run sockeye salmon escapement (through 31 July) by week, 2011.

Week	Sample Size	Age												Total		
		0.2	1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4	3.1	3.2	3.3			
23–24 5/31–6/13	0	Percent	0.0	0.0	26.8	16.9	0.0	1.4	18.3	35.2	1.4	0.0	0.0	0.0	100.0	
		Numbers	0	0	1,061	670	0	56	726	1,396	56	0	0	0	3,965	
25 6/14–6/20	71	Percent	0.0	0.0	26.1	16.1	0.0	1.3	19.5	35.5	1.3	0.0	0.0	0.0	100.0	
		Numbers	0	0	4,924	2,968	18	243	4,036	6,931	224	0	0	18	19,364	
26 6/21–6/27	187	Percent	0.0	0.1	19.4	9.0	0.4	1.1	34.0	35.5	0.1	0.0	0.0	0.4	100.0	
		Numbers	0	47	10,163	4,697	199	510	17,035	18,682	76	0	0	199	51,608	
27 6/28–7/4	191	Percent	0.3	0.6	15.8	8.2	0.0	2.5	44.3	28.3	0.0	0.0	0.0	0.0	100.0	
		Numbers	108	245	6,284	3,253	4	1,014	17,769	11,291	0	0	0	4	39,971	
28 7/5–7/11	121	Percent	0.6	1.0	10.4	11.4	0.3	2.3	41.8	32.3	0.0	0.1	0.0	0.0	100.0	
		Numbers	135	221	2,471	2,535	55	529	9,825	7,434	0	28	0	0	23,233	
29 7/12–7/18	231	Percent	0.0	1.1	5.7	23.5	0.6	2.6	27.8	38.2	0.0	0.5	0.0	0.0	100.0	
		Numbers	3	227	1,125	4,642	133	495	5,547	7,568	0	91	0	0	19,831	
30 7/19–7/25	169	Percent	0.0	0.9	5.0	28.4	0.1	4.8	20.9	39.3	0.0	0.5	0.1	0.0	100.0	
		Numbers	0	137	750	4,262	13	718	3,164	5,929	0	73	13	0	15,059	
31 7/26–8/1	177	Percent	0.0	1.6	2.8	22.8	0.0	3.5	20.2	39.1	0.0	0.1	0.4	0.0	90.6	
		Numbers	0	654	1,030	8,643	0	1,333	7,730	14,854	0	17	159	0	34,420	
Totals		1,147	Percent	0.1	0.7	13.4	15.3	0.2	2.4	31.7	35.7	0.2	0.1	0.1	100.0	
			Numbers	246	1,530	27,808	31,672	423	4,897	65,833	74,084	356	209	172	221	207,451

Table 11.—Estimated age composition of Bear River late-run sockeye salmon escapement (post 31 July) by week, 2011.

Week	Sample Size	Age								Total	
		1.1	1.2	1.3	2.1	2.2	2.3	3.1	3.2		
31 7/26–8/1	177	Percent	0.2	0.3	2.4	0.4	2.1	4.1	0.0	9.4	
		Numbers	68	107	898	138	803	1,543	2	3,575	
32 8/2–8/8	210	Percent	0.5	2.5	16.7	2.3	23.7	54.3	0.0	100.0	
		Numbers	62	461	2,977	402	4,392	10,165	0	18,470	
33 8/9–8/15	199	Percent	0.9	2.7	21.9	2.4	23.9	48.1	0.1	100.0	
		Numbers	289	830	6,713	721	7,280	14,556	21	30,410	
34 8/16–8/22	196	Percent	1.4	1.3	23.3	1.8	18.9	53.0	0.3	100.0	
		Numbers	462	446	7,939	602	6,387	18,067	112	34,014	
35 8/23–8/29	190	Percent	1.1	0.5	27.4	1.1	14.2	55.8	0.0	100.0	
		Numbers	222	111	5,769	222	2,996	11,760	0	21,080	
36–38 8/30–9/19	0	Percent	1.1	0.5	27.4	1.1	14.2	55.8	0.0	100.0	
		Numbers	263	132	6,842	263	3,553	13,947	0	25,000	
Totals		Percent	1.0	1.6	23.5	1.8	19.2	52.8	0.1	100.0	
		Numbers	1,366	2,087	31,137	2,348	25,410	70,038	135	132,549	

Table 12.—Estimated age composition of Ilnik River sockeye salmon escapement by week, 2011.

Week	Sample Size	Age										Total	
		0.2	0.3	0.4	1.2	1.3	1.4	2.2	2.3	2.4	3.3		
23 5/24–6/6	0	Percent	0.0	33.3	0.0	0.0	40.0	6.7	20.0	0.0	0.0	100.0	
		Numbers	0	147	0	0	176	29	88	0	0	440	
24 6/7–6/13	15	Percent	0.0	33.3	0.0	0.0	40.0	6.7	20.0	0.0	0.0	100.0	
		Numbers	0	681	0	0	817	136	409	0	0	2,043	
25 6/14–6/20	198	Percent	0.8	21.6	1.5	2.3	51.2	4.2	6.2	10.3	1.4	0.3	100.0
		Numbers	80	2,002	151	232	4,900	394	536	1,022	136	32	9,484
26 6/21–6/27	180	Percent	1.5	26.7	4.8	3.0	38.8	5.6	2.6	14.8	2.2	0.0	100.0
		Numbers	268	4,632	859	524	6,719	970	466	2,554	373	6	17,370
27 6/28–7/4	180	Percent	3.3	23.8	8.4	3.8	39.0	4.4	3.4	13.1	0.7	0.0	100.0
		Numbers	234	1,658	594	272	2,745	308	242	917	49	0	7,018
28 7/5–7/11	117	Percent	4.2	20.6	4.4	4.3	45.1	3.4	0.1	15.3	2.5	0.0	100.0
		Numbers	201	976	211	202	2,131	163	7	723	117	0	4,731
29–30 7/12–7/25	0	Percent	4.3	20.5	4.3	4.3	45.3	3.4	0.0	15.4	2.6	0.0	100.0
		Numbers	82	393	82	82	867	65	0	294	49	0	1,914
Totals	690	Percent	2.0	24.4	4.4	3.0	42.7	4.8	4.1	12.8	1.7	0.1	100.0
		Numbers	864	10,488	1,897	1,310	18,356	2,066	1,748	5,511	723	38	43,000

Note: Escapement includes a post-weir estimate of 1,393 fish within weeks 29 and 30.

Table 13.—Length composition of Orzinski Lake sockeye salmon escapement samples by age and sex, 2011.

	Age								
	0.2	1.1	1.2	1.3	1.4	2.1	2.2	2.3	Total
Females									
Mean Length (mm)	520	—	519	575	575	—	532	577	551
SE	—	—	3	1	15	—	3	4	3
Range	—	—	414–611	518–630	560–589	—	459–631	520–662	414–662
Sample Size	1	0	143	225	2	0	94	42	507
Males									
Mean Length (mm)	457	365	494	600	553	369	536	603	543
SE	52	5	3	2	27	5	6	4	3
Range	405–509	332–400	420–603	490–670	526–579	340–381	452–638	570–640	332–670
Sample Size	2	15	172	191	2	8	72	38	500
All Fish									
Mean Length (mm)	478	365	505	586	564	369	534	589	547
SE	37	5	2	1	14	5	3	3	2
Range	405–520	332–400	414–611	490–670	526–589	340–381	452–638	520–662	332–670
Sample Size	3	15	315	416	4	8	166	80	1,007

Table 14.—Length composition of Nelson River sockeye salmon escapement samples by age and sex, 2011.

	Age										
	0.4	1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4	3.1	Total
Females											
Mean Length (mm)	—	—	491	549	555	—	502	538.89	580	—	514
SE	—	—	10	5	18	—	2	5.43	—	—	5
Range	—	—	450–535	500–625	530–590	—	420–555	495–585	—	—	420–625
Sample Size	0	0	9	21	3	0	119	27	1	0	180
Males											
Mean Length (mm)	615	340	459.17	572	—	354	479	573	590	370	475
SE	—	5	9.99	7	—	7	4	11	—	—	5
Range	—	310–360	415–545	530–610	—	325–380	415–585	530–615	—	—	310–615
Sample Size	1	9	18	13	0	10	115	8	1	1	176
All Fish											
Mean Length (mm)	615	340	470	558	555	354	491	547	585	370	495
SE	—	5	8	5	18	7	3	5	5	—	3
Range	—	310–360	415–545	500–625	530–590	325–380	415–585	495–615	580–590	—	310–625
Sample Size	1	9	27	34	3	10	234	35	2	1	356

Table 15.—Length composition of Sandy River sockeye salmon escapement samples by age and sex, 2011.

	Age									Total
	0.2	0.3	1.1	1.2	1.3	1.4	2.1	2.2	2.3	
Females										
Mean Length (mm)	456	542	—	485	544	570	—	485	546	532
SE	11	3	—	4	1	—	—	11	4	4
Range	428–495	490–578	—	413–566	472–602	—	—	432–542	510–583	413–602
Sample Size	5	34	0	51	222	1	0	12	26	351
Males										
Mean Length (mm)	436	573	325	461	567	445	310	493	571	521
SE	9	3	4	7	3	—	—	13	4	4
Range	398–572	534–594	308–337	247–586	411–628	—	—	410–602	523–612	247–628
Sample Size	24	23	6	58	113	1	1	22	24	272
All Fish										
Mean Length (mm)	439	555	325	473	552	508	310	490	558	527
SE	8	3	4	4	1	63	—	9	3	2
Range	398–572	490–594	308–337	247–586	411–628	445–570	—	410–602	510–612	247–628
Sample Size	29	57	6	109	335	2	1	34	50	623

Table 16.—Length composition of Bear River early-run sockeye salmon escapement (through 31 July) samples by age and sex, 2011.

	Age													
	0.2	1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4	3.1	3.2	3.3	Total	
Females														
Mean Length (mm)	—	—	476	549	550	339	483	560	—	—	—	525	533	
SE	—	—	6	3	—	14	3	2	—	—	—	—	3	
Range	—	—	425–570	444–620	—	325–352	410–571	435–645	—	—	—	—	325–645	
Sample Size	0	0	40	137	1	2	115	230	0	0	0	1	526	
Males														
Mean Length (mm)	480	346	451	555	598	359	461	574	590	351	450	—	492	
SE	—	5	3	6	7	6	2	3	—	19	—	—	3	
Range	—	325–375	405–530	450–625	591–605	315–441	390–608	435–680	—	332–370	—	—	315–680	
Sample Size	1	10	89	51	2	25	232	150	1	2	1	0	564	
All Fish														
Mean Length (mm)	480	346	458	551	582	358	468	565	590	351	450	525	512	
SE	—	5	3	3	17	5	2	2	—	19	—	—	2	
Range	—	325–375	405–570	444–625	550–605	315–441	390–608	435–680	—	332–370	—	—	315–680	
Sample Size	1	10	129	188	3	27	347	380	1	2	1	1	1090	

Table 17.—Length composition of Bear River late-run sockeye salmon escapement (post 31 July) samples by age and sex, 2011.

	Age							
	1.1	1.2	1.3	2.1	2.2	2.3	3.1	Total
Females								
Mean Length (mm)	—	444	542	—	481	551	—	533
SE	—	20	3	—	3	2	—	3
Range	—	348–479	455–593	—	413–547	445–623	—	348–623
Sample Size	0	6	73	0	83	236	0	398
Males								
Mean Length (mm)	360	464	538	361	477	550	357	519
SE	5	7	3	5	4	2	—	3
Range	339–375	430–512	468–604	324–430	398–586	450–630	—	324–630
Sample Size	7	10	108	18	92	216	1	452
All Fish								
Mean Length (mm)	360	456	539	361	479	550	357	526
SE	5	9	2	5	3	1	—	2
Range	339–375	348–512	455–604	324–430	398–586	445–630	—	324–630
Sample Size	7	16	181	18	175	452	1	850

Table 18.—Length composition of Ilnik River sockeye salmon escapement samples by age and sex, 2011.

	Age											
	0.2	0.3	0.4	1.2	1.3	1.4	2.2	2.3	2.4	3.3	Total	
Females												
Mean Length (mm)	533	564	575	526	565	564	546	569	582	—	563	
SE	10	2	4	11	2	8	7	4	11	—	2	
Range	480–580	500–610	540–630	490–580	500–610	520–590	490–580	530–620	550–610	—	480–630	
Sample Size	9	71	21	10	139	9	13	31	5	0	308	
Males												
Mean Length (mm)	542	597	603	515	593	619	553	605	610	600	594	
SE	7	2	8	19	2	5	16	3	3	—	2	
Range	510–560	520–640	560–650	420–630	420–640	560–660	470–600	510–650	600–620	—	420–660	
Sample Size	6	84	12	13	170	21	7	62	6	1	382	
All Fish												
Mean Length (mm)	537	582	585	520	581	602	549	593	597	600	580	
SE	7	2	5	12	2	6	7	3	6	—	1	
Range	480–580	500–640	540–650	420–630	420–640	520–660	470–600	510–650	550–620	—	420–660	
Sample Size	15	155	33	23	309	30	20	93	11	1	690	

Table 19.—Estimated sex composition of Orzinski Lake sockeye salmon escapement by week, 2011.

Week	Dates	Sample			Escapement			Number		
		Females	Males	Total	Females	Males	Females	Males	Total	
25	6/14–6/20	0	0	0	39.7	60.3	8	12	20	
26	6/21–6/27	23	35	58	39.9	60.1	221	333	554	
27	6/28–7/04	45	65	110	45.0	55.0	1,293	1,577	2,870	
28	7/05–7/11	147	134	281	51.3	48.7	4,055	3,842	7,897	
29	7/12–7/18	113	87	200	55.3	44.7	561	453	1,014	
30	7/19–7/25	122	118	240	51.0	49.0	1,133	1,089	2,222	
31	7/26–8/01	111	124	235	47.3	52.7	1,035	1,152	2,187	
Total		561	563	1,124	49.5	50.5	8,305	8,459	16,764	

Table 20.—Estimated sex composition of Nelson River sockeye salmon escapement by week, 2011.

Week	Dates	Sample			Escapement			Number		
		Females	Males	Total	Females	Males	Females	Males	Total	
23–26	5/31–6/27	0	0	0	51.0	49.0	13,444	12,923	26,367	
27	6/28–7/04	129	124	253	51.0	49.0	13,471	12,961	26,432	
28	7/05–7/11	97	94	191	50.1	49.9	8,867	8,837	17,704	
29	7/12–7/18	0	0	0	47.1	52.9	4,241	4,760	9,001	
30	7/19–7/25	15	19	34	44.3	55.7	2,382	3,000	5,382	
31–32	7/26–8/8	0	0	0	44.1	55.9	1,815	2,299	4,114	
Total		241	237	478	49.7	50.3	44,220	44,780	89,000	

Note: Escapement includes a pre-weir estimate of 13,170 fish within weeks 23–25, and a post-weir estimate of 4,114 fish within weeks 31 and 32.

Table 21.—Estimated sex composition of Sandy River sockeye salmon escapement by week, 2011.

Week	Dates	Sample			Escapement				
		Females	Males	Total	Percent	Females	Males	Number	
							Females	Males	Total
25	6/14–6/20	0	0	0	60.0	40.0	135	90	225
26	6/21–6/27	144	96	240	58.9	41.1	2,803	1,957	4,760
27	6/28–7/04	110	97	207	54.6	45.4	3,916	3,257	7,173
28	7/05–7/11	156	120	276	56.6	43.4	3,307	2,541	5,848
29	7/12–7/18	74	46	120	60.5	39.5	4,219	2,749	6,968
30–31	7/19–8/1	0	0	0	61.7	38.3	3,099	1,927	5,026
Total		484	359	843	58.3	41.7	17,479	12,521	30,000

Note: Escapement includes a post-weir estimate of 3,277 fish within weeks 30 and 31.

Table 22.—Estimated sex composition of Ilnik River sockeye salmon escapement by week, 2011.

Week	Dates	Sample			Escapement				
		Females	Males	Total	Percent	Females	Males	Number	
							Females	Males	Total
23	5/31–6/6	0	0	0	40.0	60.0	176	264	440
24	6/07–6/13	8	12	20	40.0	60.0	817	1,226	2,043
25	6/14–6/20	93	147	240	41.0	59.0	3,893	5,591	9,484
26	6/21–6/27	126	114	240	49.1	50.9	8,535	8,835	17,370
27	6/28–7/04	96	144	240	42.3	57.7	2,966	4,052	7,018
28	7/05–7/11	75	85	160	46.6	53.4	2,207	2,524	4,731
29–30	7/12–7/25	0	0	0	46.9	53.1	897	1,017	1,914
Total		398	502	900	45.3	54.7	19,491	23,509	43,000

Note: Escapement includes a post-weir estimate of 1,393 fish within weeks 29 and 30.

Table 23.—Estimated sex composition of Bear River sockeye salmon escapement by week, 2011.

Week	Dates	Sample			Escapement				
		Females	Males	Total	Percent		Number		
					Females	Males	Females	Males	Total
23–24	5/31–6/13	0	0	0	40.0	60.0	1,586	2,379	3,965
25	6/14–6/20	32	48	80	40.6	59.4	7,866	11,498	19,364
26	6/21–6/27	104	135	239	42.4	57.6	21,901	29,707	51,608
27	6/28–7/04	93	147	240	38.0	62.0	15,202	24,769	39,971
28	7/05–7/11	56	104	160	42.2	57.8	9,796	13,437	23,233
29	7/12–7/18	170	110	280	58.8	41.2	11,670	8,161	19,831
30	7/19–7/25	129	111	240	55.3	44.7	8,329	6,730	15,059
31	7/26–8/1	143	97	240	52.6	38.0	19,978	14,442	34,420
Total	Early Run	727	752	1,479	46.4	53.6	96,328	111,123	207,451
31	7/26–8/1	143	97	240	5.5	3.9	2,075	1,500	3,575
32	8/02–8/08	119	125	244	50.1	49.9	9,250	9,220	18,470
33	8/09–8/15	122	118	240	49.0	51.0	14,891	15,519	30,410
34	8/16–8/22	94	146	240	41.6	58.4	14,142	19,872	34,014
35	8/23–8/29	108	132	240	45.0	55.0	9,486	11,594	21,080
36–38	8/30–9/19	0	0	0	45.0	55.0	11,250	13,750	25,000
Total	Late Run	586	618	1,204	46.1	53.9	61,093	71,456	132,549

Table 24.—Age composition of Bear River sockeye salmon smolt samples by week, 2011.

Week	Sample Size	Age			Total		
		1	2	3			
24 6/7–6/13	205	Percent	21.0	78.5	0.5	100.0	
		Numbers	43	161	1	205	
26 6/21–6/27	203	Percent	26.6	72.4	1.0	100.0	
		Numbers	54	147	2	203	
27 6/28–7/4	196	Percent	45.9	53.6	0.5	100.0	
		Numbers	90	105	1	196	
28 7/5–7/11	119	Percent	52.1	39.5	8.4	100.0	
		Numbers	62	47	10	119	
29 7/12–7/18	30	Percent	73.3	26.7	0.0	100.0	
		Numbers	22	8	0	30	
30 7/19–7/25	202	Percent	62.9	37.1	0.0	100.0	
		Numbers	127	75	0	202	
31 7/26–8/1	148	Percent	55.4	44.6	0.0	100.0	
		Numbers	82	66	0	148	
32 8/2–8/8	81	Percent	67.9	32.1	0.0	100.0	
		Numbers	55	26	0	81	
Total		Percent	45.2	53.6	1.2	100.0	
		Numbers	535	635	14	1,184	

Table 25.—Length, weight, and condition of Bear River sockeye salmon smolt samples, by age and week, 2011.

Age	Stat	Length (mm)				Weight (g)				Condition			
		Week	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error		
1	24	43	102	1		43	9.9	0.3	43	0.92	0.01		
1	26	54	107	1		54	11.6	0.2	54	0.95	0.01		
1	27	90	106	1		90	11.2	0.2	90	0.94	0.01		
1	28	62	106	1		62	11.2	0.2	62	0.94	0.01		
1	29	22	109	1		22	11.8	0.5	22	0.89	0.01		
1	30	127	107	1		127	11.7	0.2	127	0.96	0.02		
1	31	82	107	1		82	11.4	0.3	82	0.92	0.01		
1	32	55	113	1		55	14.2	0.3	55	0.97	0.01		
Totals		535	107	0		535	11.6	0.1	535	0.94	0.01		
2	24	161	117	1		160	14.6	0.2	160	0.90	0.01		
2	26	147	115	1		147	14.1	0.2	147	0.93	0.01		
2	27	105	110	1		105	12.4	0.2	105	0.92	0.01		
2	28	47	114	2		47	14.4	0.7	47	0.93	0.01		
2	29	8	115	2		8	13.6	0.8	8	0.89	0.03		
2	30	75	111	1		75	13.1	0.4	75	0.94	0.01		
2	31	66	112	1		66	13.0	0.3	66	0.93	0.01		
2	32	26	114	1		26	14.3	0.4	26	0.96	0.01		
Totals		635	114	0		634	13.7	0.1	634	0.92	0.00		
3	24	1	108	0		1	10.7	0.0	1	0.85	0.00		
3	26	2	123	8		2	17.2	4.3	2	0.91	0.06		
3	27	1	116	0		1	15.0	0.0	1	0.96	0.00		
3	28	10	139	3		10	24.0	2.0	10	0.87	0.05		
Total		14	133	4		14	21.4	1.9	14	0.88	0.04		

Table 26.—Age composition of all available Bear River sockeye salmon smolt samples, 1967–2011.

Year	Sample Dates	Sample Size	Age				Total	
			0	1	2	3		
1967	05/03–07/27	165	Percent	0.0	6.1	93.3	0.6	100.0
			Numbers	0	10	154	1	165
1968	06/01–08/24	626	Percent	0.2	24.0	75.9	0.0	100.0
			Numbers	1	150	475	0	626
1969	06/01–08/04	508	Percent	0.0	12.2	87.8	0.0	100.0
			Numbers	0	62	446	0	508
1970	05/17–08/08	603	Percent	0.0	7.8	92.2	0.0	100.0
			Numbers	0	47	556	0	603
1971	06/14–07/03	346	Percent	0.0	27.2	72.0	0.9	100.0
			Numbers	0	94	249	3	346
1972	06/08–06/20	168	Percent	0.0	9.5	90.5	0.0	100.0
			Numbers	0	16	152	0	168
1973	06/07–07/05	39	Percent	0.0	15.4	84.6	0.0	100.0
			Numbers	0	6	33	0	39
1974	06/15–08/23	77	Percent	0.0	29.9	70.1	0.0	100.0
			Numbers	0	23	54	0	77
1975	06/04–08/25	114	Percent	0.0	22.8	77.2	0.0	100.0
			Numbers	0	26	88	0	114
1978	05/29–08/01	80	Percent	0.0	30.0	70.0	0.0	100.0
			Numbers	0	24	56	0	80
1980	05/05–07/04	138	Percent	1.4	10.1	87.0	1.4	100.0
			Numbers	2	14	120	2	138
1986	05/30–07/16	1,016	Percent	0.4	1.9	95.0	2.8	100.0
			Numbers	4	19	965	28	1,016
1987	06/07–06/18	393	Percent	0.0	1.3	95.7	3.1	100.0
			Numbers	0	5	376	12	393
1988	05/29–08/22	2,056	Percent	0.5	52.4	46.8	0.2	100.0
			Numbers	11	1,078	963	4	2,056
1989	05/31–07/29	1,584	Percent	0.8	26.2	72.9	0.1	100.0
			Numbers	12	415	1,155	2	1,584

-continued-

Table 26.—Page 2 of 3.

Year	Sample Dates	Sample Size	Age				Total	
			0	1	2	3		
1992	06/09–07/24	1,337	Percent	0.0	11.3	88.6	0.1	100.0
			Numbers	0	151	1,184	2	1,337
1993	06/01–08/02	1,587	Percent	0.0	7.6	92.3	0.1	100.0
			Numbers	0	121	1,465	1	1,587
1994	06/08–07/20	1,283	Percent	0.0	9.7	87.3	3.0	100.0
			Numbers	0	125	1,120	38	1,283
1995	06/15–07/23	1,021	Percent	0.1	12.0	87.8	0.1	100.0
			Numbers	1	123	896	1	1,021
1996	06/12–07/17	603	Percent	0.3	7.6	91.9	0.2	100.0
			Numbers	2	46	554	1	603
1997	06/23–08/15	1,240	Percent	0.1	43.7	56.1	0.1	100.0
			Numbers	1	542	696	1	1,240
1998	06/20–08/21	1,424	Percent	0.0	55.3	44.7	0.1	100.1
			Numbers	0	787	636	1	1,424
1999	06/13–08/24	2,057	Percent	0.0	1.6	97.9	0.5	100.0
			Numbers	1	33	2,013	10	2,057
2000	05/18–08/11	2,135	Percent	0.6	31.9	66.9	0.6	100.0
			Numbers	12	682	1,428	12	2,135
2001	05/23–08/09	1,917	Percent	0.4	40.5	54.1	4.9	99.9
			Numbers	8	777	1,038	94	1,917
2002	05/19–08/20	2,931	Percent	0.1	73.0	25.9	1.1	100.1
			Numbers	2	2,139	759	31	2,931
2003	06/15–08/17	1,788	Percent	0.0	54.0	45.9	0.1	100.0
			Numbers	0	966	820	2	1,788
2004	06/03–08/08	1,786	Percent	0.0	56.1	43.8	0.1	100.0
			Numbers	0	1002	782	2	1,786
2005	05/30–08/18	2,197	Percent	0.2	62.4	37.3	0.0	100.0
			Numbers	4	1372	820	1	2,197
2006	05/27–07/26	1,646	Percent	0.0	46.0	54.0	0.0	100.0
			Numbers	0	757	889	0	1,646

Table 26.—Page 3 of 3.

Year	Sample Dates	Sample Size	Age					Total	
			0	1	2	3			
2007	05/27–08/13	2,188	Percent	0.2	30.7	69.0	0.1	100.0	
			Numbers	5	672	1,509	2	2,188	
2008	06/15–08/03	1,582	Percent	0.0	5.7	94.1	0.3	100.1	
			Numbers	0	90	1,488	4	1,582	
2009	06/02–08/01	1,630	Percent	0.3	29.1	69.9	0.7	100.0	
			Numbers	5	474	1,139	12	1,630	
2010	06/05–07/30	1,501	Percent	0.1	14.9	61.2	23.7	100.0	
			Numbers	2	224	918	355	1,501	
2011	06/10–08/07	1,184	Percent	0.0	45.2	53.6	1.2	100.0	
			Numbers	0	535	635	14	1,184	
Total		40,950	Percent	0.2	33.2	65.0	1.6	100.0	
			Numbers	73	13,607	26,631	636	40,950	

Table 27.—Alaska Peninsula Management Area commercial salmon catch in numbers of fish by statistical area, section, and district, 2011.

Statistical Area	Section	Number of Salmon					Total		
		Chinook	Sockeye	Coho	Pink	Chum			
<i>SOUTH PENINSULA</i>									
<i>SOUTHEASTERN DISTRICT</i>									
281-15	Kupreanof Point	16	3,314	771	9,034	1,499	14,634		
281-25	Stepovak Bay (Island/Fox Bay)	186	118,229	7,187	164,566	38,549	328,717		
East Stepovak Section Total		202	121,543	7,958	173,600	40,048	343,351		
281-30	Stepovak Flats Section	7	1,126	24	2,672	2,797	6,626		
281-40	Grub Gulch/Clark Bay	34	11,739	30	10,168	9,192	31,163		
281-50	Orzinski Bay	8	10,615	14	4,392	614	15,643		
281-55	American Bay	17	16,302	367	3,716	3,045	23,447		
281-62	Chichagof Bay	49	11,590	10	19,630	4,368	35,647		
281-65	Suzy Creek	6	6,778	87	1,603	988	9,462		
281-67	Dorenoi Bay	0	710	0	42	156	908		
Northwest Stepovak Section Total		114	57,734	508	39,551	18,363	116,270		
281-70	Southwest Stepovak Section	49	38,537	1,117	230,354	7,016	277,073		
281-80	Balboa Bay Section	56	26,054	785	20,502	11,657	59,054		
281-90	Beaver Bay Section	0	14	0	0	0	14		

-continued-

Table 27.—Page 2 of 6.

Statistical Area	Section	Number of Salmon					Total
		Chinook	Sockeye	Coho	Pink	Chum	
282-10	Popof Strait/Squaw Harbor	95	16,759	2,087	594,392	11,138	624,471
282-11	Unga Cape/East Popof	2,969	361,667	70,904	1,458,661	241,838	2,136,039
282-20	Archeredin Bay	113	27,447	6,121	135,124	19,828	188,633
282-25	West Unga Island	32	31,929	3,286	97,177	14,490	146,914
282-30	Bay Point	0	1,257	0	463	307	2,027
282-32	Outer Zachary Bay	0	259	119	21,086	295	21,759
282-35	Zachary Bay	6	547	478	159,584	11,394	172,009
282-40	East Head/West Head	0	792	37	12,161	111	13,101
282-42	Korovin Island	444	76,476	9,463	103,126	36,196	225,705
282-45	Northeast Nagai Island	44	25,361	2	17,855	10,787	54,049
282-50	Koniugi Island	0	0	0	0	0	0
282-65	Southeast Nagai Island	282	40,140	7,308	232,629	47,312	327,671
282-70	Southwest Nagai Island	141	19,380	7,723	134,099	19,551	180,894
282-75	Cape Horn/Porpoise Rocks	37	7,996	1,043	95,725	3,646	108,447
282-80	East Nagai Strait	95	44,083	4	33,760	23,480	101,422
Shumagin Islands Section Total		4,258	654,093	108,575	3,095,842	440,373	4,303,141
SOUTHEASTERN DISTRICT TOTAL		4,686	899,101	118,967	3,562,521	520,254	5,105,529
<i>SOUTH CENTRAL DISTRICT</i>							
283-15	Mino Creek - McGinty Point	1	5,316	1	37,426	616	43,360
283-17	Coal Bay - South Cape Tolstoi	20	6,735	76	211,310	4,834	222,975
Mino Cr. - Little Coal B. Section Total		21	12,051	77	248,736	5,450	266,335
283-20	Southside Cape Tolstoi	0	0	0	0	0	0
283-21	Northside Cape Tolstoi	0	1,329	61	21,764	737	23,891
283-23	Eastside Pavlof Bay	7	539	1,012	214,865	3,922	220,345

-continued-

Table 27.—Page 3 of 6.

Statistical Area	Section	Number of Salmon					Total
		Chinook	Sockeye	Coho	Pink	Chum	
	East Pavlof Bay Section Total	7	1,868	1,073	236,629	4,659	244,236
283-24	Canoe Bay Section	17	767	653	197,189	21,628	220,254
283-25	Northwest Pavlof Bay	0	0	0	1,445	2,839	4,284
283-26	Long Beach/Ukolnoi	15	9,295	254	50,475	51,221	111,260
	West Pavlof Bay Section Total	15	9,295	254	51,920	54,060	115,544
	SOUTH CENTRAL DISTRICT TOTAL	60	23,981	2,057	734,474	85,797	846,369

SOUTHWESTERN DISTRICT

284-36	Volcano Bay	0	1,441	8	117	11,625	13,191
284-37	Northside Dolgoi Island	28	33,608	566	34,725	5,253	74,180
284-38	South Dolgoi/Moss Cape	1	5,257	127	20,450	3,332	29,167
284-39	Poperechnoi Island	8	7,101	481	34,274	2,558	44,422
	Volcano Bay Section Total	37	47,407	1,182	89,566	22,768	160,960
284-42	Belkofski Bay	2	3,961	204	13,310	3,224	20,701
284-45	King Cove	0	668	43	58,224	3,592	62,527
284-47	General Section	0	0	0	0	0	0
	Belkofski Bay Section Total	2	4,629	247	71,534	6,816	83,228
284-55	Deer Island Section	0	49	2	8,824	1,035	9,910

-continued-

Table 27.—Page 4 of 6.

Statistical Area	Section	Number of Salmon					Total
		Chinook	Sockeye	Coho	Pink	Chum	
284-62	Outer Cold Bay	0	911	203	58	277	1,449
284-65	Lenard Harbor	0	2	34	8,794	25,224	34,054
284-67	Inner Cold Bay	0	1,737	0	1,387	4,795	7,919
Cold Bay Section Total		0	2,650	237	10,239	30,296	43,422
284-70	General Section	0	0	0	0	0	0
284-75	Thin Point Section	0	156	1	1,613	15,375	17,145
284-80	Morzhovoi Bay Section	7	1,896	0	669	6,585	9,157
284-90	Ikatan Bay Section	981	163,639	10,157	61,793	53,103	289,673
SOUTHWESTERN DISTRICT TOTAL		1,027	220,426	11,826	244,238	135,978	613,495
<i>UNIMAK DISTRICT</i>							
285-10	Sanak Island Section	15	22,245	2,308	26,972	15,659	67,199
285-20	Bird Island	310	159,998	3,803	41,218	39,838	245,167
285-30	Cape Lazaref	290	246,615	4,306	16,084	46,442	313,737
Otter Cove Section Total		600	406,613	8,109	57,302	86,280	558,904
285-40	Cape Lutke Section	826	346,869	10,215	380,264	135,219	873,393
UNIMAK DISTRICT TOTAL		1,441	775,727	20,632	464,538	237,158	1,499,496
SOUTH PENINSULA TOTAL		7,214	1,919,235	153,482	5,005,771	979,187	8,064,889

-continued-

Table 27.—Page 5 of 6.

Statistical Area	Section	Number of Salmon					Total		
		Chinook	Sockeye	Coho	Pink	Chum			
NORTH PENINSULA									
NORTHWESTERN DISTRICT									
311-20	Dublin Bay Section	0	983	0	317	181	1,481		
311-32	Uriilia Bay Section	0	0	0	0	0	0		
311-52	Swanson Lagoon Section	2	324	9	88	9,169	9,592		
311-60	Bechevin Bay Section	2	888	905	103,624	77,388	182,807		
311-58	Cape Krenitzen to Cape Glazena	1	2,917	68	2,038	4,691	9,715		
312-10	Cape Glazena to Moffet Point	1	1,566	472	170	21,598	23,807		
312-20	Izembek Lagoon	0	628	4	126	703	1,461		
312-40	Moffet Bay	6	12,807	989	2,132	115,668	131,602		
Izembeck-Moffet Bay Section Total		8	17,918	1,533	4,466	142,660	166,585		
NORTHWESTERN DISTRICT TOTAL		12	20,113	2,447	108,495	229,398	360,465		
NORTHERN DISTRICT									
313-10	Black Hills Section	19	17,826	596	51	20,138	38,630		
313-30	Nelson Lagoon Section	499	74,808	13,119	11	2,011	90,448		
314-12	Port Moller Bight Section	37	221	0	0	121	379		
314-20	Herendeen Bay Section	2	193	3	0	14,593	14,791		
315-11	Bear River	452	90,777	1,214	96	7,484	100,023		
315-20	Muddy River	22	32,309	1,002	101	188	33,622		
Bear River Section Total		474	123,086	2,216	197	7,672	133,645		

-continued-

Table 27.—Page 6 of 6.

Statistical Area	Section	Number of Salmon					Total
		Chinook	Sockeye	Coho	Pink	Chum	
316-10	Three Hills Section	1	11,189	637	23	236	12,086
316-20	Outside Ilnik	132	98,254	427	31	4,978	103,822
316-22	Ilnik Lagoon	0	0	0	0	0	0
316-25	Strogonoof Point	437	204,810	5	14	6,293	211,559
Ilnik Section Total		569	303,064	432	45	11,271	315,381
317-10	Outer Port Heiden Section	756	375,128	11	41	8,408	384,344
317-20	Inner Port Heiden Section	0	0	0	0	0	0
318-20	Cinder River Section	0	0	0	0	0	0
<i>NORTHERN DISTRICT TOTAL</i>		2,357	905,515	17,014	368	64,450	989,704
<i>NORTH PENINSULA TOTAL</i>		2,369	925,628	19,461	108,863	293,848	1,350,169
<i>UNALASKA DISTRICT-ALEUTIAN ISLANDS</i>							
302-31	Unalaska Bay	2	1,863	2	617,932	223	620,022
302-35	Unalaska Bay Section	0	0	0	0	0	0
302-40	Makushin Bay	0	0	0	14,957	12	14,969
302-45	Skan Bay	0	0	0	0	0	0
<i>ALEUTIAN ISLANDS TOTAL</i>		2	1,863	2	632,889	235	634,991
<hr/> <hr/> <i>ALASKA PENINSULA AND ALEUTIAN ISLANDS AREAS TOTAL</i>							
		9,585	2,846,726	172,945	5,747,523	1,273,270	10,050,049

Note: Numbers include personal use harvest with commercial gear and ADF&G test fisheries.

Table 28.—Estimated age composition of sampled sockeye salmon catches by area, Alaska Peninsula Management Area, 2011.

Area Sample size	Age										Total	
	0.2	0.3	1.1	1.2	1.3	1.4	2.2	2.3	2.4	3.2		
<i>Nelson Lagoon Section^a</i>												
Percent	0.3	0.9	0.2	7.1	25.1	1.0	54.6	10.2	0.5	0.1	100.0	
1,568	Numbers	187	637	153	5,342	18,754	784	40,858	7,668	344	81	74,808
<i>Harbor Point to Stroganof Point^a</i>												
Percent	0.0	3.1	25.2	10.9	60.7	0.1	0.0	0.0	0.0	0.0	100.0	
707	Numbers	0	2,417	19,554	8,459	47,128	110	0	0	0	0	77,668
Total	Percent	0.1	2.0	12.9	9.1	43.2	0.6	26.8	5.0	0.2	0.1	100.0
2,275	Numbers	187	3,054	19,707	13,801	65,882	894	40,858	7,668	344	81	152,476

^a Age composition estimates represent harvest from only a portion of the catch (see individual tables).

Table 29.—Estimated age composition of Nelson Lagoon Section (313-30) commercial sockeye salmon catch, 2011.

Week	Sample Size	Age											Total
		0.2	0.3	1.1	1.2	1.3	1.4	2.2	2.3	2.4	3.2		
23–25 5/31–6/13	0	Percent	0.0	0.0	0.0	4.9	30.0	0.4	52.3	12.1	0.2	0.2	100.0
		Numbers	0	0	0	623	3,807	45	6,634	1,536	22	22	12,689
26 6/21–6/27	570	Percent	0.0	0.0	0.0	4.8	28.0	0.4	54.6	11.9	0.2	0.2	100.0
		Numbers	0	0	0	712	4,218	54	7,932	1,763	27	27	14,732
27 6/28–7/4	445	Percent	0.1	0.2	0.0	4.7	20.5	0.9	62.7	10.5	0.3	0.2	100.0
		Numbers	10	30	0	746	3,292	132	10,219	1,715	41	31	16,217
28 7/5–7/11	221	Percent	0.4	1.4	0.1	6.9	21.9	2.7	58.3	7.8	0.5	0.0	100.0
		Numbers	27	82	4	414	1,350	174	3,641	475	30	1	6,198
29 7/12–7/18	332	Percent	0.6	2.1	0.6	11.2	24.3	1.6	50.2	8.7	0.9	0.0	100.0
		Numbers	27	94	26	509	1,104	72	2,283	394	40	0	4,551
30–36 7/19–9/5	0	Percent	0.6	2.1	0.6	11.4	24.4	1.5	49.7	8.7	0.9	0.0	100.0
		Numbers	123	431	123	2,337	4,982	308	10,149	1,784	185	0	20,421
Totals	1,568	Percent	0.3	0.9	0.2	7.1	25.1	1.0	54.6	10.2	0.5	0.1	100.0
		Numbers	187	637	153	5,342	18,754	784	40,858	7,668	344	81	74,808

Table 30.—Estimated age composition of Harbor Point-Strogonof Point (314-12 and 315-00 through 315-99) commercial sockeye salmon catch 30 August–5 September, 2011.

Week	Sample Size	Age					Total Fish
		0.3	1.1	1.2	1.3	1.4	
32–35 8/2–8/29	0	Percent	3.1	25.2	10.9	60.7	0.1 100.0
		Numbers	1,509	12,207	5,281	29,421	69 48,486
36 8/30–9/5	707	Percent	3.1	25.2	10.9	60.7	0.1 100.0
		Numbers	799	6,461	2,795	15,571	36 25,661
37 9/6–9/12	0	Percent	3.1	25.2	10.9	60.7	0.1 100.0
		Numbers	110	886	383	2,137	5 3,521
Totals		707	Percent	3.1	25.2	10.9	0.1 100.0
			Numbers	2,417	19,554	8,459	110 77,668

Table 31.—Alaska Peninsula Management Area commercial salmon test fishery catch in numbers of fish by statistical area, section, and delivery date, 2011.

Statistical Area	Section	Date	Number of Salmon					Total
			Chinook	Sockeye	Coho	Pink	Chum	
<i>SOUTH PENINSULA</i>								
281-25	Stepovak Bay	19-Jul	0	791	0	106	117	1,014
281-70	SW Stepovak Section	19-Jul	0	454	0	0	0	454
282-11	Unga Cape/East Popof	2-Jul	0	480	13	5,478	361	6,332
		3-Jul	1	334	18	4,122	472	4,947
		5-Jul	6	337	18	2,380	482	3,223
		Total	7	2,396	49	12,086	1,432	15,970
<i>NORTH PENINSULA</i>								
315-11	Bear River	2-Aug	0	719	0	11	32	762
		9-Aug	0	740	6	8	23	777
		14-Aug	1	975	15	14	11	1,016
		Total	1	2,434	21	33	66	2,555

Table 32.—Estimated age composition of the Bear River Section test fishery, 2 August and 9 August, 2011.

Week	Sample Size	Age						Total Fish		
		0.2	0.3	1.2	1.3	2.2	2.3			
32 8/2–8/8	367	Percent	0.5	0.3	0.0	3.0	12.5	83.7	100.0	
		Numbers	2	1	0	11	46	307	367	
33 8/9–8/15	345	Percent	0.0	0.0	1.4	7.2	18.3	73.0	100.0	
		Numbers	0	0	5	25	63	252	345	
Totals		Percent	0.3	0.1	0.7	5.1	15.3	78.5	100.0	
		Numbers	2	1	5	36	109	559	712	

Table 33.—Nelson River sockeye salmon escapement, estimated catch by area, and estimated total run, by age, 2011.

	Sample Size		Age										Total
			0.4	1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4	3.1	
Escapement ^a	357	Percent	0.3	3.2	7.4	9.2	0.9	3.2	64.2	10.5	0.9	0.2	100.0
		Numbers	273	2,836	6,621	8,159	820	2,859	57,151	9,336	798	147	89,000
Catch ^b	1,568	Percent	0.0	0.2	7.2	25.4	1.1	0.0	55.3	10.4	0.5	0.0	100.0
		Numbers	0	153	5,342	18,754	784	0	40,858	7,668	344	0	73,903
Total	1,925	Percent	0.2	1.8	7.3	16.5	1.0	1.8	60.2	10.4	0.7	0.1	100.0
		Numbers	273	2,989	11,964	26,912	1,604	2,859	98,009	17,003	1,142	147	162,903

^a Includes post-weir estimate.

^b The catch numbers have omitted minor age classes not found in the escapement in order to avoid misrepresentation in the brood table.

Table 34.—Nelson River sockeye salmon brood table, 1978–2011.

Year	Escapement ^a	Age													Total Return	Return/ Spawner							
		0.1	0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	3.1	1.4	2.3	3.2	2.4	3.3							
1978																2,942	779						
1979																5,620	322,104	542	701	170			
1980									299	107,873	492,648	0	131	185,282	202	239	44						
1981	251,000				1,759	36,372	46,924	72	41,812	47,275	0	660	13,678	35	59	0							
1982	179,600		314	65	5,608	11,464	2,635	67	45,490	143,389	0	123	125,841	1,572	963	8	337,539	1.9					
1983	128,800	0	852	0	5,740	43,856	23,711	244	72,682	53,532	0	936	66,102	210	2,964	2,751	273,580	2.1					
1984	251,000	0	624	6,638	1,912	59,603	12,678	206	59,696	276,557	154	449	275,013	10,624	17	0	704,171	2.8					
1985	314,000	0	168	671	976	77,339	8,037	171	110,618	238,924	0	0	109,028	0	1,632	46	547,610	1.7					
1986	117,500	40	187	353	4,370	33,650	13	0	188,884	175,014	0	7,801	140,116	285	1,817	1,979	554,509	4.7					
1987	155,700	0	57	0	1,588	71,043	4,221	143	112	151,270	0	2,986	287,652	7,874	3,054	288	530,288	3.4					
1988	142,900	0	574	3,357	3,441	132,457	9,261	0	126,716	257,895	0	4,422	129,241	2,311	1,025	1,051	671,751	4.7					
1989	206,800	0	520	394	3,029	21,813	8,550	0	42,705	422,926	333	510	129,324	2,124	104	0	632,332	3.1					
1990	269,200	0	274	0	1,836	39,391	15,830	47	104,895	490,010	0	770	66,012	0	0	388	719,453	2.7					
1991	279,200	0	43	57	850	27,591	29,153	13	93,773	397,612	0	1,059	117,254	0	0	0	667,405	2.4					
1992	179,700	177	372	367	7,022	101,543	16,002	35	88,011	138,846	0	270	65,466	1,950	0	323	420,384	2.3					
1993	262,200	0	588	696	6,168	32,200	0	0	101,468	68,567	0	757	43,961	0	247	822	255,474	1.0					
1994	333,400	0	0	66	1,784	56,338	25,719	0	55,711	278,510	0	187	64,812	2,238	396	850	486,611	1.5					
1995	338,700	0	408	1,225	9,053	40,189	8,048	45	40,011	159,412	0	443	59,776	0	427	1,805	320,842	0.9					
1996	241,600	0	487	369	4,798	103,080	373	1,351	127,901	121,449	179	258	116,142	29,140	284	5,141	510,952	2.1					
1997	183,000	0	28	336	11,403	40,783	5,776	0	36,770	364,391	234	781	188,100	3,880	1,428	592	654,502	3.6					
1998	159,810	0	5,419	603	8,105	49,739	8,673	0	88,210	248,385	1,082	989	122,876	1,015	77	738	535,911	3.4					
1999	202,067	0	23,892	284	13,776	47,362	104,402	591	106,577	677,132	532	1,501	117,938	6,593	446	2,055	1,103,081	5.5					
2000	182,694	234	10,599	2,296	15,861	42,510	2,498	0	53,774	363,805	0	927	75,988	433	258	598	569,781	3.1					
2001	201,962	2,152	34,953	20	15,722	38,048	8,544	705	60,178	252,169	0	672	124,101	1,063	1,030	1,143	540,500	2.7					
2002	315,689	159	16,950	191	12,230	52,044	4,310	271	67,350	238,834	0	392	94,440	836	238	0	488,245	1.5					
2003	343,511	820	7,994	784	10,424	71,839	884	327	79,730	73,596	0	2,072	30,449	497	0	244	279,660	0.8					
2004	480,097	0	1,166	96	7,016	65,083	1,158	236	144,813	163,350	0	0	45,616	244	1,142	0	429,919	0.9					
2005	303,000	0	564	181	1,962	26,112	572	0	80,858	35,531	0	1,604	17,003	0									
2006	215,000	0	488	430	2,386	30,824	3,136	273	26,912	98,009	147												
2007	180,000	0	0	1,296	0	11,964	2,859																
2008	141,600	0	0	2,989																			
2009	157,000	0																					
2010	108,000																						
2011	89,000																						
Average																							
1995–2004	264,913	337	10,190	620	10,839	55,068	14,467	353	80,531	266,252	203	804	97,543	4,370	533	1,232	543,339	2.5					

^a Includes post-weir estimates.

Table 35.—Estimated Bear River sockeye salmon late-run catch, escapement, and total late run, by age, 2011.

	Sample Size		Age								
			1.1	1.2	1.3	2.1	2.2	2.3	3.1	3.2	Total
Escapement ^a	972	Percent	1.0	1.6	23.5	1.8	19.2	52.8	0.1	0.0	100.0
		Numbers	1,366	2,087	31,137	2,348	25,410	70,038	135	27	132,549
Catch ^b	707	Percent	0.0	3.1	25.2	0.0	10.9	60.8	0.0	0.0	100.0
		Numbers	0	2,417	19,554	0	8,459	47,128	0	0	77,558
Total	1,679	Percent	0.7	2.1	24.1	1.1	16.1	55.8	0.1	0.0	100.0
		Numbers	1,366	4,504	50,692	2,348	33,869	117,167	135	27	210,107

^a Includes post-weir estimate.

^b The catch numbers have omitted minor age classes not found in the escapement in order to avoid misrepresentation in the brood table. Limited harvest samples were collected; age composition based on a portion of the catch.

Table 36.—Bear River late-run (post 31 July) sockeye salmon brood table, 1980–2011.

Year	Escapement ^a	Return Ages														Total Return	Return/Spawner			
		0.1	0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	3.1	1.4	2.3	3.2	1.5	2.4	3.3	3.4		
1980	238,038							0	12,754	400,014	90	54	132,036	330	0	205	17	0	545,500	2.3
1981	214,728			1,134	43,049	9,594	0	6,463	210,579	0	2	47,413	18	0	41	93	0	318,386	1.5	
1982	104,503	0	0	657	1,324	1,333	0	7,344	70,269	0	91	197,258	488	0	1,259	847	0	280,870	2.7	
1983	172,143	0	0	0	147	5,044	176	0	16,802	134,380	0	488	160,027	2,093	0	89	0	0	319,246	1.9
1984	108,151	0	0	0	429	2,887	19,898	0	23,787	301,375	0	185	142,790	11,014	0	1,261	0	0	503,626	4.7
1985	170,739	0	0	1	592	24,407	14,756	0	138,603	538,445	0	1,058	217,073	38	0	2,789	2,074	0	939,836	5.5
1986	98,921	0	0	172	2,512	62,610	2,269	0	77,677	412,258	0	1,252	301,036	5,751	0	416	4,290	0	870,243	8.8
1987	83,395	0	0	0	910	77,886	17,721	57	19,211	451,063	1,000	321	490,594	25,598	0	1,909	2,341	0	1,088,611	13.1
1988	140,660	0	0	2,101	256	15,096	29,363	77	18,515	370,999	0	109	250,503	224	0	2,886	143	0	690,272	4.9
1989	204,804	0	0	2,599	1,932	6,504	40,756	0	52,714	638,148	0	2,223	322,645	1,191	0	439	67	0	1,069,218	5.2
1990	262,946	0	0	0	1,037	35,887	11,911	82	77,905	795,302	0	94	250,526	13,215	0	751	1,370	0	1,188,080	4.5
1991	173,913	0	0	1,123	211	39,738	15,637	90	32,615	192,725	146	979	91,586	1,564	0	0	1	0	376,415	2.2
1992	195,830	0	0	247	741	7,789	19,961	226	44,890	356,357	0	0	73,155	339	0	44	215	0	503,964	2.6
1993	197,988	0	189	122	7,940	6,631	30,910	1	6,601	366,291	123	184	114,578	5,819	0	100	1,299	32	540,788	2.7
1994	204,441	0	316	1,705	312	20,444	21,371	0	18,139	566,411	0	55	156,901	1,098	32	714	229	0	787,727	3.9
1995	107,961	0	24	1,279	497	30,943	27,553	0	47,482	455,680	0	860	147,895	32	0	1,149	351	0	713,745	6.6
1996	119,629	0	217	1,208	1,287	37,755	8,026	32	15,639	271,516	0	301	143,781	19,931	0	423	2,901	0	503,017	4.2
1997	145,311	0	0	527	1,095	5,718	28,904	50	2,606	198,531	201	196	103,653	7,179	0	0	10	0	348,670	2.4
1998	193,420	0	2,749	202	1,549	13,224	10,321	0	13,915	163,150	0	0	20,433	375	0	139	25	0	226,082	1.2
1999	127,890	211	2,058	347	1,316	5,837	27,362	0	1,592	42,043	0	520	32,175	69	0	579	11	0	114,120	0.9
2000	90,947	15	722	7,625	225	15,160	7,762	69	78,873	491,468	0	1,916	134,683	339	0	1,062	837	0	740,756	8.1
2001	122,505	134	921	540	3,355	14,271	10,434	106	41,740	203,429	0	816	124,321	5	0	1,670	0	0	401,742	3.3
2002	95,520	11	7,476	6,420	2,354	137,064	15,417	104	150,956	584,702	0	1,123	136,306	0	0	234	0	0	1,042,167	10.9
2003	139,799	221	2,665	4,320	2,046	62,296	17,103	0	230,760	436,775	0	1,841	145,171	233	0	0	0	0	903,431	6.5
2004	80,435	0	0	1,171	5,012	51,056	9,458	0	24,643	115,873	0	174	85,731	0	0	0	0	0	293,118	3.6
2005	221,752	0	0	419	0	6,422	9,871	0	63,392	260,270	0	0	117,166	27						
2006	182,005	0	0	0	346	27,840	3,337	0	50,692	33,869	135									
2007	224,767	0	0	1,753	0	4,504	2,348													
2008	195,474	0	0	1,366																
2009	133,263	0																		
2010	142,966																			
2011	132,549																			
Average																				
1995–2004	122,342	59	1,683	2,364	1,874	37,332	16,234	36	60,821	296,317	20	775	107,415	2,816	0	526	414	0	528,685	4.8

^a Includes post-weir estimates.

Table 37.—Estimated age composition of McLees Lake sockeye salmon escapement by week, 2011.

Week	Sample Size	Age						Total Fish	
		1.1	1.2	1.3	1.4	2.2	2.3		
24 6/7–6/13	119	Percent	0.2	2.4	89.6	1.5	1.0	5.3 100.0	
		Numbers	8	75	2,370	37	30	133 2,652	
25 6/14–6/20	120	Percent	0.6	4.8	88.3	0.8	1.4	4.1 100.0	
		Numbers	38	282	5,416	55	84	251 6,125	
26 6/21–6/27	117	Percent	0.1	7.1	86.6	0.2	0.2	5.8 100.0	
		Numbers	5	587	6,877	16	10	453 7,947	
27 6/28–7/4	120	Percent	0.0	10.8	86.3	0.7	0.0	2.2 100.0	
		Numbers	0	1,053	8,415	71	0	216 9,755	
28 7/5–7/11	119	Percent	0.0	13.5	84.9	0.7	0.0	0.8 100.0	
		Numbers	0	1,167	7,353	66	0	77 8,664	
29 7/12–7/18	44	Percent	0.0	11.8	88.0	0.1	0.0	0.1 100.0	
		Numbers	0	173	1,281	2	0	2 1,459	
Totals		Percent	0.1	9.1	86.6	0.7	0.3	3.1 100.0	
		Numbers	50	3,337	31,712	247	124	1,132 36,602	

Table 38.—Length composition of McLees Lake sockeye salmon escapement samples by age and sex, 2011.

	Age						
	1.1	1.2	1.3	1.4	2.2	2.3	Total
Females							
Mean Length (mm)	—	498	544	—	488	545	540
SE	—	4	1	—	18	5	2
Range	—	464–557	446–595	—	470–505	530–566	446–595
Sample Size	0	27	281	0	2	8	318
Males							
Mean Length (mm)	367	513	573	595	518	560	568
SE	—	7	1	9	—	8	2
Range	—	460–591	508–621	575–625	—	501–590	367–625
Sample Size	1	24	272	5	1	14	317
All Fish							
Mean Length (mm)	367	505	559	595	498	555	554
SE	—	4	1	9	14	5	1
Range	—	460–591	446–621	575–625	470–518	501–590	367–625
Sample Size	1	51	557	5	3	22	639

Table 39.—Estimated sex composition of McLees Lake sockeye salmon escapement by week, 2011.

Week	Dates	Sample			Percent			Escapement		
		Females	Males	Total	Females	Males	Females	Males	Total	
24	6/07–6/13	69	66	135	49.5	50.5	1,312	1,340	2,652	
25	6/14–6/20	62	72	134	48.1	51.9	2,946	3,179	6,125	
26	6/21–6/27	77	58	135	54.8	45.2	4,359	3,588	7,947	
27	6/28–7/04	66	69	135	50.1	49.9	4,891	4,864	9,755	
28	7/05–7/11	67	66	133	49.6	50.4	4,299	4,365	8,664	
29	7/12–7/18	21	26	47	45.7	54.3	667	792	1,459	
Total		362	357	719	50.5	49.5	18,473	18,129	36,602	

09

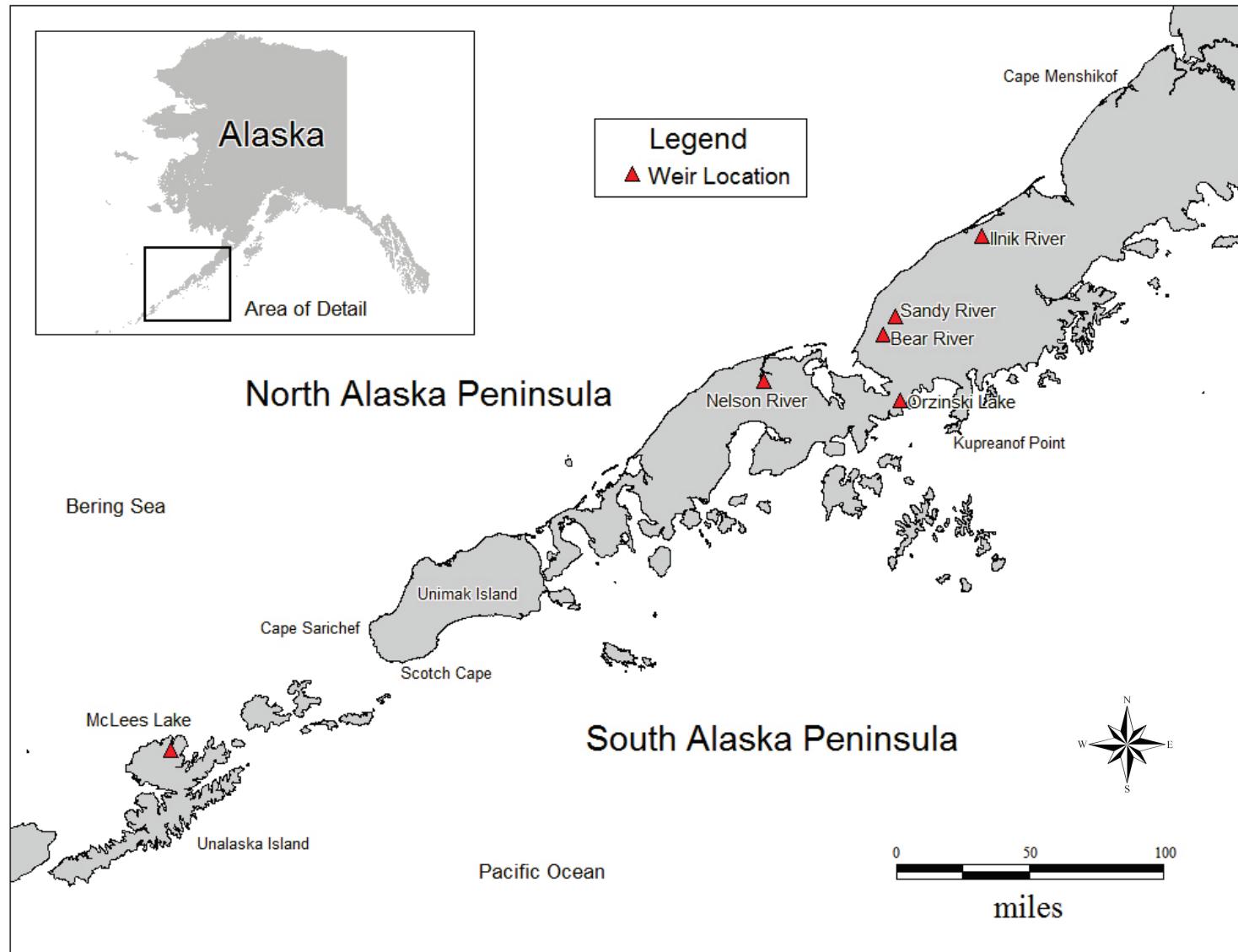


Figure 1.—Map of the Alaska Peninsula and a portion of the Aleutian Islands Management Areas with weir locations identified.

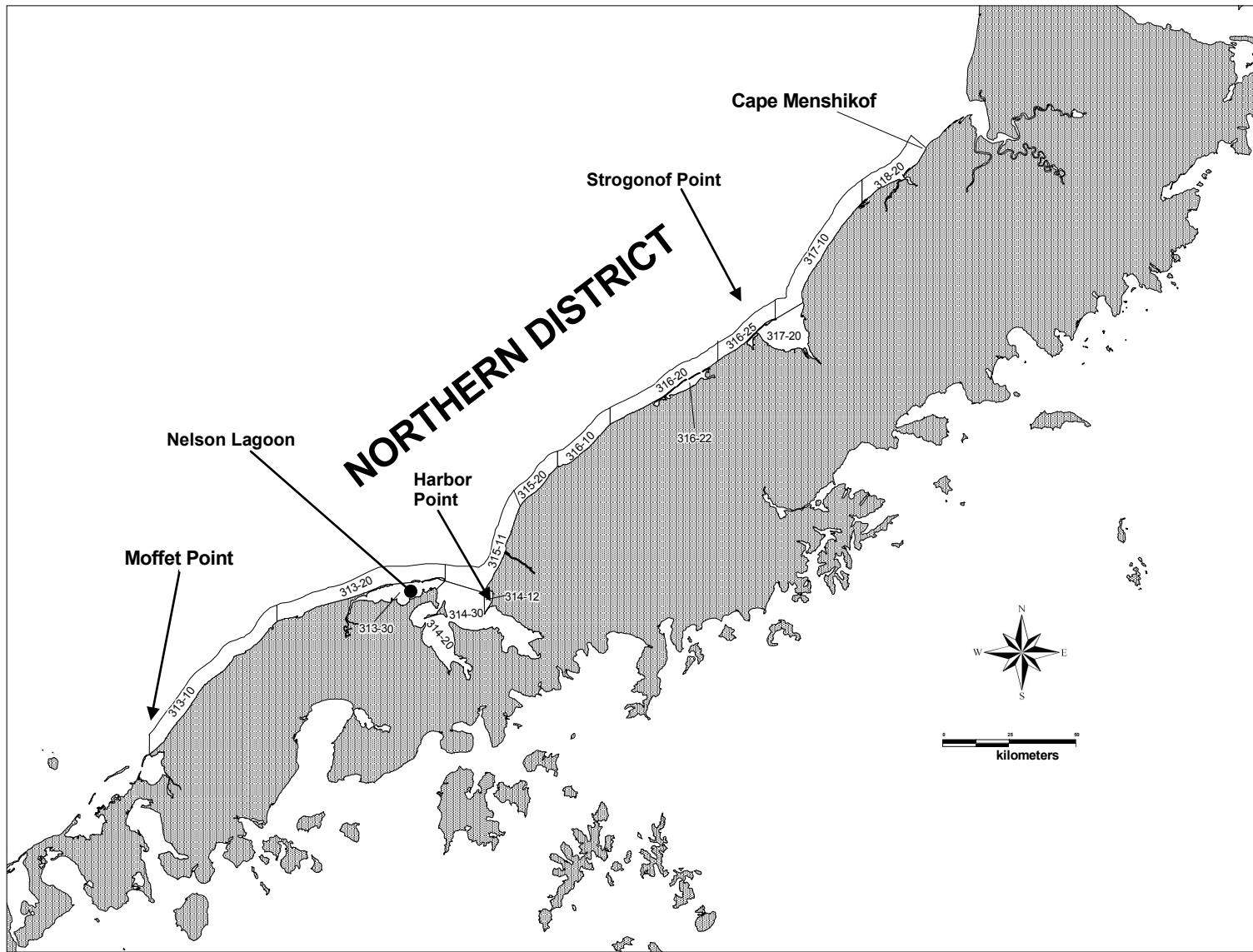


Figure 2.—Map of the Northern District depicting the statistical salmon fishing areas.

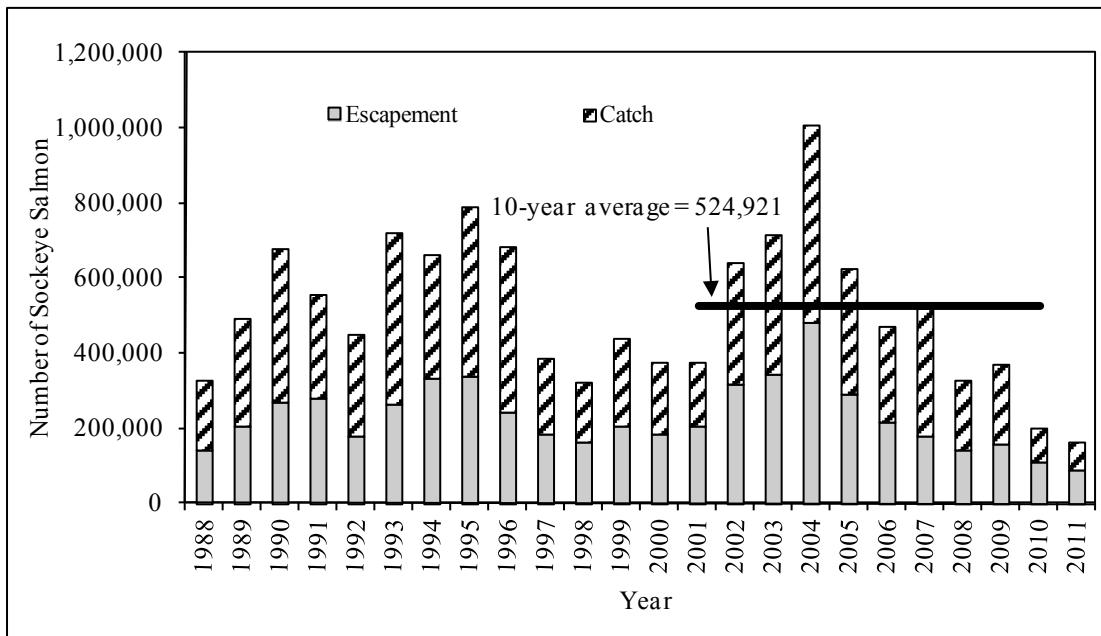


Figure 3.—Nelson River sockeye salmon escapement, catch, and run estimates, 1988 to 2011, and the recent 10-year average estimated run (2001 to 2010).

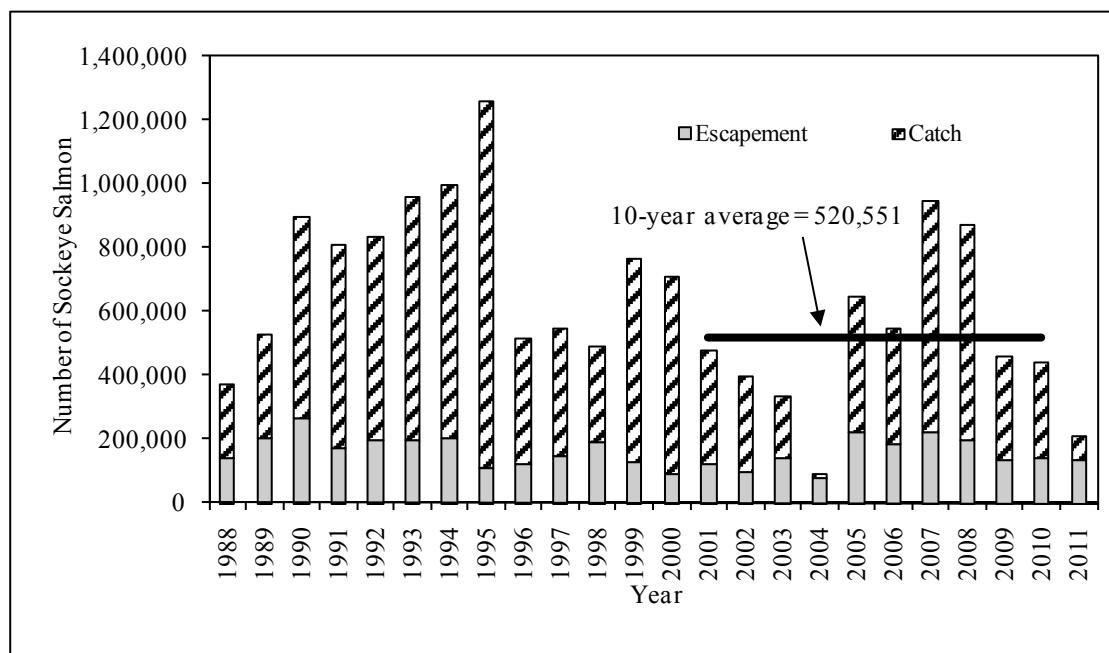


Figure 4.—Bear River late-run sockeye salmon escapement, catch, and run estimates, 1988 to 2011, and the recent 10-year average estimated run (2001 to 2010).